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The Check Clearing for the 21st Century Act-A Wrong Turn in the Road to Improvement of the U.S. Payments System

Carl Felsenfeld
Fordham Law School

Genci Bilali
Banking Law Committee (New York)

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The Check Clearing for the 21st Century Act—A Wrong Turn in the Road to Improvement of the U.S. Payments System

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I. INTRODUCTION

The Check Clearing for the 21st Century Act¹ (Check 21 Act) was introduced to Congress by the Federal Reserve System, enacted by

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* Professor of Law, Fordham Law School, B.A. 1948, *magna cum laude*, Dartmouth College; M.S. 1951, Columbia University; J.D. 1954, Columbia University.

** Attorney at law, New York. Member of the Banking Law Committee (The Association of the Bar of the City of New York), J.D. 1992, University of Tilana School of Law; L.L.M. 1998, Fordham University. The authors wish to thank Stephanie A. Heller and Raleigh M. Tozer for their helpful comments. The comments and substantive assertions contained in this Article are, however, the sole responsibility of the authors.

1. Check 21 Act, Pub. L. No. 108-100, 117 Stat. 1177 (2003) (codified at 12 U.S.C. §§ 5001-5018) (2000)).

Congress, signed by the President on October 28, 2003, and became effective one year later, on October 28, 2004. It makes a modest change in the check-clearing system designed to speed the movement of checks from the depository to the paying bank. It is anticipated that it will eventually lead to what is called "electronic presentment," a process that may make the clearing of checks almost as swift as today's electronic payment systems.

In this way, the Federal Reserve has given a kind of imprimatur to the checking system and added to its life. The checking system is—even with the Check 21 Act modification—the oldest, slowest, most expensive, and easily the most complex of the payment devices in use. Checking has its roots in the Middle Ages² where, along with the bill of exchange and early forms of promissory notes, checks were traded in the fourteenth century merchant fairs and litigated in the merchant "pied-poudre"³ courts. The device moved indoors in the eighteenth century largely through a series of cases before the King's Bench and decided by stellar judges such as Lord John Mansfield. The law was codified in the English Bills of Exchange Act of 1882 and received in the United States in the first uniform law, the Uniform Negotiable Instruments Law of 1895. Checks are currently governed by four different laws: Article 3 of the Uniform Commercial Code (U.C.C.), Negotiable Instruments; U.C.C. Article 4, Bank Deposits and Collections; 12 C.F.R. pt 210 [hereinafter Regulation J], and 12 C.F.R. pt. 229 [hereinafter Regulation CC]. The interrelationship of these laws almost defies understanding.⁴

Starting about ten years ago, both the number and the volume of checks started to decline.⁵ Simpler, cheaper, and faster payment devices like credit and debit cards, and electronic payments, including internet payments and the Automated Clearing House system, were gradually replacing checks as the payment systems of choice. It was widely anticipated that checks would simply phase out of use and become an ugly memory. Through the Check 21 Act, the Federal Reserve has stalled this evolution and given new life to the checking system.

2. In order to learn more about the history of the check, see Cheque—Wikipedia, [http://en.wikipedia.org/wiki/Check_\(finance\)](http://en.wikipedia.org/wiki/Check_(finance)) (last visited June 2, 2006).

3. This phrase meaning "dusty feet" refers to the trek to these outdoor and frequently dirty courts.

4. U.C.C. § 3-401 provides that no person is liable on an instrument (including a check) unless the person signed it; U.C.C. § 4-302 describes how a payor bank will be liable on an unsigned instrument. The relationship between 12 C.F.R. pt. 229 and the U.C.C. on when a bank may revoke a check settlement may never have been fully worked out. For information on when settlement may not be "considered" final, see the commentary to 12 C.F.R. § 229.36(d) (2006).

5. One cannot be precise about this declination since an accurate computation of checks in use is not taken.

This Article gives the authors' views of on the current state of affairs. Part II explains why, with our dazzling array of technological innovations, we have not been able to clear checks instantaneously as we do electronic funds transfers, and why checks must still be physically loaded on trucks, planes, and ships and moved to payor banks. In essence, the burdensome legal system does not allow for a change that has been technologically feasible for years.

Part III describes the role that emerging electronic payment methods are playing in the U.S. payments system. Relying on multiple data and statistics, this Part provides a summary of the evolution of these electronic payments, including credit and debit cards, wire transfers, automatic clearinghouse payments, "e-money"/"e-cash," electronic benefit transfers, stored-value cards, mobile payments, automated teller machines, consumer-to-consumer online payments, and others. In contrast, this Part shows that the use of checks in the U.S. payments system is in gradual but steady decline. The societal trend is shifting from paper-based (cash and checks) to checkless, electronic-based payment methods.

Part IV provides a background of the enactment of the Check 21 Act as well as a detailed analysis of it. This Part discusses the provisions of the Act including the definition of a substitute check; the way that the substitute check operates; expedited recredit rights for consumers; warranties and their breach by banks, which deal with substitute check transactions; and consumers' liability and damage claims against the banks. The Part also discusses the legal aspects of the Act on the Uniform Commercial Code in check transactions and the effects of the Act on the Federal Reserve's Regulations CC and J.

Part V discusses the impact that the Check 21 Act will have on check payment transactions. Through testimony from bankers and leading scholars in the field and from official statistics, this Part concludes that the Act may not generate positive results consistent with the purpose of its enactment. Banks and bankers, individuals, businesses, and consumer advocates express concern about the implementation of the Act, and more importantly, question the likelihood that it will facilitate check payment system efficiency. Many banks are unprepared to handle new procedures associated with the substitute check or simply find it too costly. Vast numbers of consumers are unaware of the Act and its purpose. The Act's enactment has caused tremendous headaches for banks that will now have to undertake new measures to curb check fraud, invest in unknown and uncertain areas of check-image equipment and check-image-exchange devices, or simply outsource such services. In short, comparing the positive effects expected from the Act (for example, reducing the time a check takes to clear, though this effect is yet to be seen), and the difficulties in its

implementation, this Part concludes that the Act may actually represent a step backward in development of the U.S. payments system.

Part VI gives the authors' views on what the Federal Reserve should have done rather than engineer enactment of the Check 21 Act. It acknowledges that the Act may result in simplification of the check-clearing system but concludes that meaningful simplification will come not through modifications of check clearing; instead, it will come through selection of one of the electronic payment systems that are now taking over the market. A multitude of electronic systems, limited only by the imagination of bank marketing executives, has come into existence. They will replace the dying checks; the Check 21 Act only prolongs the agony. The Federal Reserve is, of course, not the only regulatory body that could make the selection we propose. It is, however, dominant in the eyes of the public and of Congress as our senior financial spokesperson, and its position as regulator or statutory draftsman could be crucial. In this Article, the authors do not suggest a payment device for official anointment. Directed study of the system, including the systems in use abroad where the use of efficient and economical electronic payments is not infrequently superior to our own, is required for this selection to be made.

The Article concludes by asserting that the Check 21 Act should not have been enacted. The blame for its enactment should fall squarely on the Federal Reserve Board. The Federal Reserve may never admit this, but it rushed its judgment and used the favor in which it is held by Congress when it proposed the Act. Instead, the Federal Reserve should have proposed legislation which would improve the innovative and current electronic payment transactions which are increasingly in use. Issuing the Act to improve the check-clearance process while checks' use is in decline will probably be marked as a mistake in the history of the U.S. payments system.

II. THE CURRENT PATTERN OF CHECK CLEARING/PRESENTMENT

The rules of U.C.C. Articles 3 and 4 provide the legal source of the transfer of money through the checking system.⁶ This, of course, means the physical movement of paper ("instruments" in Article 3, "items" in Article 4). The transfer of paper from hand to hand among the parties to the checking process—from the writing (or drawing) of a check through its collection—harkens back to a medieval payment system that seems much more cumbersome and expensive than it

6. This "source" is modified by later variations, principally 12 C.F.R. pt. 210 [hereinafter Regulation J] (for checks handled by the Federal Reserve System) and 12 C.F.R. pt. 229 [hereinafter Regulation CC] (for checks collected through the banking system).

need be in today's electronic society.⁷ In their current versions, therefore, Articles 3 and 4 contain various thrusts into the more modern world where paper does not move physically and where funds are transferred through some form of electronic processing.

A. Electronic Presentment of Checks Under Current Statute

1. *Electronic Presentment in Articles 3 and 4*

Presentment to the drawee/payor of a check is required for a check to be paid. Current law under the U.C.C. provides for presentment by any reasonable means, including electronic.⁸ Electronic check presentment allows a bank in the collection system to capture the information from a magnetic-ink-character-recognition (MICR) line on a check⁹ and forward that information electronically to a drawee/payor bank for payment. However, "no bank will participate in an electronic presentment program without an agreement."¹⁰

There is comparatively little electronic presentment, despite its obvious savings. This has occasionally been ascribed to the agreement requirement. Given the number of parties that participate in the handling of a check, it is said to be difficult to situate an agreement that will cover all of them.¹¹ This argument needs closer scrutiny. Private companies working with a discrete number of banks and an identifiable number of parties can establish those who must be covered by an electronic presentment agreement and arrange its coverage.¹² A financial institution can achieve critical mass by exchanging with multiple partners without negotiating bilateral agreements with each one.

Banks exchange checks' payment information before physically presenting the checks for payment. The depository bank captures payment information on incoming checks from the checks themselves and

7. "The reason for this emphasis on truncation of item collection, particularly checks, is that as you will see, transferring pieces of paper around is expensive and time consuming." LINDA RUSCH, *PAYMENT SYSTEMS, PROBLEMS, MATERIALS AND CASES* 204 (2d ed. 2003).

8. U.C.C. § 3-501 (1977).

9. Information on the MICR line includes the identification numbers of the drawee bank and the drawer's account at that bank, the number of the check and the amount of the check.

10. U.C.C. § 4-410 cmt. 2 (1977).

11. To cover all checks "would require agreements between about 19,000 institutions and tens of millions of bank customers. The likelihood of accomplishing this with the same agreement is virtually zero." David Walker, *Transitioning the Check: More than Just Check 21*, *ELECTRONIC BANKING L. & COM. REP.*, July-Aug. 2004, at 6.

12. Electronic Check Presentment is the core service offered by Electronic Clearing Services, a private company, which describes itself as the "leading bank-owned, private sector, standardized, nationwide, multilateral Electronic Check Presentment provider." SVP CO, <http://www.svpco.com/home.php> (last visited June 2, 2006).

types it on the MICR line. With appropriate legal underpinnings—the agreement—this information may be immediately transmitted electronically to the paying bank. The paying bank then posts transactions from the electronic information, identifies checks to be returned, and immediately notifies the depository bank. The depository bank then sends the actual physical checks according to its normal paper deadlines.

Normally after payment of a check by the drawee/payor bank, the instrument/check/item¹³ is delivered back to the drawer. Under the U.C.C., a bank that sends a statement of account to its customer shall either return or make available to the customer the items paid, or provides information “sufficient to allow the customer reasonably to identify the items paid.”¹⁴ If the items are not returned, the bank must either retain the items or, if they are destroyed, “maintain the capacity to furnish legible copies of the items until the expiration of seven years after receipt of the items.”¹⁵ A customer may request an actual item from a bank and the bank must either supply it or, if the item has been destroyed or is not otherwise obtainable, a legible copy.¹⁶

Current law, in its basic statutory form with a special agreement to vary its terms, allows the electronic return of items paid that is less expensive and more efficient than the methods currently in use for check presentment—basically the physical transportation of checks from bank to bank.

2. *Electronic Presentment Within the Banking System*

The collection of checks within the banking system, including presentments and returns, is governed by Regulation CC of the Federal Reserve, which supplants much of U.C.C. Articles 3 and 4 for this purpose.¹⁷ Regulation CC provides in some detail for methods of check presentment upon payor banks.¹⁸ It applies to Federal Reserve banks in their check collection functions as well as to the typical commercial bank. As with analogous provisions of the U.C.C., it also provides that its effects on check presentment “may be modified by agreement.” The Federal Reserve’s *Operating Circular No. 3*, Appendix E, is by its own terms, one such agreement.

13. A negotiable instrument, including a check, is called an “instrument” under U.C.C. § 3-104. It is also called a “check” if it is a check and not one of the other forms of instrument under that section of the U.C.C. Under Art. 4 it is called an “item.” See U.C.C. § 4-104 (1977).

14. *Id.* § 4-406.

15. *Id.*

16. *Id.*

17. Regulation CC is promulgated under 12 U.S.C. §§ 4001–4010.

18. 12 C.F.R. § 229.36 (2006).

3. *Electronic Presentment by the Federal Reserve System*

The Federal Reserve System is involved in much of the check collection in the United States. As the commercial bank is basically governed by U.C.C. Articles 3 and 4 in its check collection activities, the Federal Reserve System is governed by Regulation J. Regulation J authorizes a Federal Reserve bank to present a check "under a special collection agreement consistent with this part." Appendix E of the Federal Reserve's *Operating Circular No. 3* is an agreement that authorizes electronic presentment and excuses the Federal Reserve from the basic presentment requirements of both Regulation J and Regulation CC.

B. **Electronic Presentment Under Private Modification of Law**

The electronic presentment discussed in the prior subsection is specifically conducted under the rules of Articles 3 and 4 of the U.C.C. and under Regulations J and CC. Another approach to electronic presentment is the offer contained in those laws for parties to modify the formal prescriptions more or less as they choose by agreement. U.C.C. section 1-102 governs special agreements for the U.C.C. generally and section 4-103(1) applies particularly to Article 4:¹⁹ "Federal Reserve regulations and operating circulars, clearinghouse rules, and the like have the effect of agreements . . . whether or not specifically assented to by all parties interested in items handled."²⁰

We can conceive of an imaginative mind devising methods for the handling of checks that might, under agreements varying the rules of Articles 3 and 4, particularly with the injection of electronic methods, save time and money for banks, retailers, clearinghouses, check processors, and their customers. Actually, little if anything has been achieved with this statutory indulgence. One reason frequently given for this is that checks often pass through many hands. The typical check requires a drawer, a payee, a depository bank, and a drawee/payor bank. Checks may follow routes through intermediary parties including clearinghouses that cannot be predicted in advance. It is highly unlikely that all parties to a check can be drawn into a single agreement varying U.C.C. requirements. The device of agreeing out of

19. EDWARD RUBIN & ROBERT COOTER, *THE PAYMENT SYSTEM, CASES, MATERIALS AND ISSUES* 356 (2d ed. 1994) ("The U.C.C. is formalistic and far removed from actual banking operation; Reg. CC is much more operationally-oriented, but even its highly specific provisions are often too general to govern ordinary bank procedures. Federal Reserve Operating Circulars, clearing house rules and internal bank operations manuals often provide the additional rules that are needed for the smooth functioning of the check collection system, as the U.C.C. explicitly acknowledges.").

20. U.C.C. § 4-103 (1977).

the U.C.C. into another, perhaps more modern procedure has been part of the U.C.C. architecture since the U.C.C.'s promulgation by the National Conference of Commissioners on Uniform State Laws and the American Law Institute in 1954, but it has not been fertile ground for modernization.

The too-many-parties justification needs analysis. Consider the following when evaluating the scope of an interbank agreement: Interbank agreements are, with rare exception, binding on the customers of the respective banks. A bank's customer (usually the owner of the item) is bound by any agreement that is made by the bank in the process of collecting the item for him even though he is not a party to the agreement. By asking that the bank collect the item, the customer impliedly authorizes the bank to do anything that is reasonably necessary to collect the item. This would include making collection arrangements and agreements with other banks.

One special type of interbank agreement is a "clearinghouse rule." Clearinghouses may be citywide or extend to banks throughout an entire county or region. Clearinghouse rules and the like have the effect of agreements under section 4-103(a), whether or not specifically assented to by all parties interested in the items handled.²¹

While an agreement will go farther than the agreeing parties, it will probably not cover everyone involved in a check's transfer. To exemplify one likely problem, imagine a small local clearinghouse that inserts provisions designed to blanket the country into its basic interbank agreement. Can it do this under the general authority given to clearinghouse rules? The drafters of the U.C.C. thought of this possibility and dealt with it in this manner:

There is, of course, no intention of authorizing a local clearing house or a group of clearing houses to rewrite the basic law generally. The term "clearing house rules" should be understood in the light of functions the clearinghouses have exercised in the past.²²

This is a sensible approach, but one must clearly deal with reservations in applying the concept of contract to the checking system. Doubts similarly cling to the Federal Reserve operating letters referred to above in section 4-103 of the U.C.C. The case of *Sinclair Oil*

21. See LARRY LAWRENCE, AN INTRODUCTION TO PAYMENT SYSTEMS 313 (1997). Professor Lawrence adds, by way of footnote, two extracts whose thrust is in opposite directions from the official comments to the U.C.C. The two extracts from the U.C.C. are, first, that "owners of items and other interested parties are not affected by agreements under this subsection unless they are parties to the agreement or are bound by adaption, ratification, estoppel or the like." U.C.C. § 4-103 cmt. 2 (1977). Second, that "they may become bound to agreements on the principle that collecting banks acting as agents have authority to make binding agreements with respect to items being handled." *Id.* cmt. 3.

22. U.C.C. § 4-103 cmt. 3 (1977).

*Corp. v. Sylvan State Bank*²³ held that on a motion for summary judgment it could not decide whether a party was subject to Federal Reserve operating letter because this turned on the particular facts. On the other hand, there seems to be no question but that Federal Reserve regulations will govern all parties.²⁴ Presumably this is based upon the general power attributed to regulations as contrasted with operating letters.

There are, of course, many agreements among banks and their customers. Many of them do vary the rules of Articles 3 and 4. For example, Article 4 requires a stop payment order given by a customer to a bank to describe the item whose stop is requested "with reasonable certainty."²⁵ A bank agreed with its customer that a stop request would not be honored unless it gave the amount of the item to the penny.²⁶ In another case, the New York Court of Appeals approved a bank-payee agreement that extended the time Article 4 gave a payor bank to hold an item before it decided whether or not to pay.²⁷ Also, the Eighth Circuit Court of Appeals approved an agreement by a payor bank with a payee to pay whenever it received sufficient funds.²⁸ Other areas dealt with by private agreements include charges that may be imposed and various forms of time constraints.

Generally, bank adaptation to the Check 21 Act will require modification of these interbank agreements.²⁹ As we will explain in greater detail later in this Article, the Check 21 Act introduces a device called the "substitute check."³⁰ While the Act requires banks to accept substitute checks created under the new statutory directions, old agreements establishing alternate forms of clearing will probably need to change to take advantage of the new system.³¹ Clearing banks that have already modernized their systems to accept check images from other banks and wish to continue in that mode may do so. They will continue subject to their interbank agreements as supple-

23. 894 F. Supp. 1470 (D. Kan. 1995).

24. *USAA Inv. Mgmt. Co. v. Fed. Reserve Bank of Boston*, 906 F.Supp. 770 (D. Conn. 1995); *Am. Airlines Employees Fed. Credit Union v. Martin*, 991 S.W.2d 887 (Tex. App. 1999).

25. U.C.C. § 4-403 (1977).

26. *Staff Serv. Assoc. v. Midlantic Natl. Bank*, 504 A.2d 148 (1985). The agreement was rejected as being too one-sided in favor of the bank.

27. *David Graubart, Inc. v. Bank Leumi Trust Co.*, 399 N.E.2d 930 (N.Y. 1979).

28. *W.B. Farms v. Fremont Nat. Bank & Trust Co.*, 756 F.2d 663 (8th Cir. 1985).

29. Robert Ballen & Tom Fox, *The Check 21 Act: New Law Marks a New Century for Check Payments*, ELECTRONIC BANKING L. & COM. REP., Nov. 2003, at 11.

30. Check 21 Act, Pub. L. No. 108-100, § 3(16), 117 Stat. 1180 (2003) (codified at 12 U.S.C. § 5002 (2000)).

31. Prior to the enactment of the Check 21 Act, banks could collect or return original checks in paper form unless they had agreements to do so electronically. Since the Act's enactment, banks can still collect or return checks electronically, using these (old) agreements.

mented by U.C.C. Articles 3 and 4 as well as Regulation CC where appropriate and, in the case of federally chartered institutions, Regulation J. If they wish to enter the substitute check regime of Check 21, prior agreements may need modification; U.C.C. Chapters 3 and 4, and Regulations CC and J (all as applicable) continue, but for now, subject to the Check 21 Act. Simplification may take some doing.

What is largely missing from the contractual adaptations among banks are creative ways to simplify the check-collection process through agreements that explore changing—most significantly electrifying—the methods used to move checks through the system. Interbank agreements, including clearinghouse rules, are largely restricted to matters of traditional interest to those involved in the check-clearing process. Advances made through private agreements have been generally modest.³²

Another explanation for the absence of creative lawyering under the exception agreement rubric is the diminished knowledge in the current bar of negotiable instrument law. Since law school curricula after the first year become largely a series of electives, students tend not to take the courses with labels like “bills and notes,” “negotiable instruments,” “commercial paper,” or “payment systems.” Having little idea what most of those titles mean, they have no reason to take the courses and their ignorance has pervaded the bar. We no longer see the creative lawyering in this area that freed checks some thirty years ago from the rule that demand accounts may not pay interest.³³

III. ELECTRONIC INNOVATIONS

Since the early twentieth century, the U.S. payments system has gone through a continuous improvement process. Even before the creation of the Federal Reserve, banks in the U.S. found a way to clear payments among each other. The creation of electronic payment can usefully be traced back to 1918 when the Federal Reserve, in cooperation with major national chartered banks, started moving monies by means of telegraph. Later on, during the mid-1960s and early 1970s, as a result of the introduction of credit and debit cards and automated clearinghouses, bankers predicted a “checkless society,” forecasting the future of an electronic payments system. The *U.S. News & World Report* of August 5, 1974, announced that, “[a]fter years of being care-

32. This is not to say that advances are unknown. The New York Clearing House, for example, created a wholesale payment system, the “Universal Payment Identification Code,” which modified the Automated Clearing House. The Clearing House received the support of the Federal Reserve which operates a national ACH payments system. See THE CLEARING HOUSE, THE REMAINING BARRIERS TO EPayments AND STRAIGHT-THROUGH PROCESSING (2002), <http://www.epaynetwork.com/cms/documents/001786.pdf>.

33. See *Consumer Sav. Bank v. Comm’r of Banks*, 282 N.E.2d 416 (Mass. 1972).

fully planned, tended and nurtured in the back rooms of the nation's financial community, electronic banking finally seems ready to blossom into reality."³⁴

Today, at the beginning of the twenty-first century, the fact that cash and checks have not disappeared does not mean that real changes in the U.S. payments system have not taken place.

The rapid development of technology and the Internet has left its mark in the banking sector as well as other areas of the economy. Part of this transformation and improvement reflects the reshaping and modernization of the U.S. payments system, which is catching up with modernizations in other areas of banking services and products, as well as with technological advances abroad.³⁵ Although the U.S. payments system continues to run on paper-based methods (such as cash and checks), electronic payments are steadily gaining greater presence. The payments system is slowly but surely going electronic.

The use of checks and cash in retail and wholesale payments is gradually being replaced by the use of electronic payments, including credit cards, debit cards, wire transfers, and automated clearinghouses (ACHs),³⁶ "e-money," electronic benefits transfer (EBT), and other emerging electronic payments.³⁷ Surveys conducted by the Bank for International Settlements reveal that while new electronic payment instruments are starting to emerge, the traditional e-payment methods, such as credit cards, debit cards, and ACH transactions are driving the U.S. payments system forward.³⁸

Electronic innovations of the 1960s and 1970s in retail payments, such as credit cards, debit cards, and automated clearinghouses, have actually themselves become a distant memory. In the wholesale financial markets, checks and other negotiable instruments are seldom

34. See *Electronic Money—What It Is and the Changes It Will Bring*, U.S. NEWS & WORLD REP., Aug. 5, 1974, at 50.

35. On October 16, 2004 in a speech in Madrid, Spain, Anthony M. Santomero, President of the Federal Reserve Bank of Philadelphia, said: "America's paper-based payments system is giving way to a new realm of electronic payments vehicles—a transition that has already occurred in Europe." Anthony M. Santomero, President, Fed. Reserve Bank of Phila., *The Changing Pattern of Payments in the United States*, Lecture at 25th SUERF Colloquium (Oct. 16, 2004), *available at* <http://www.philadelphiafed.org/publicaffairs/speeches/santomero45.html>.

36. The ACH is an electronic payments network that enables the processing of credit and debit payments, such as payroll and prearranged bill payments, between depository institutions.

37. In this Part of the Article, we discuss all these electronic payments in further detail. The emerging payments category includes electronic bill payment and presentment, C2C payments, stored-value cards, e-cash, e-checks, etc.

38. COMM. ON PAYMENT & SETTLEMENT SYS., BANK FOR INT'L SETTLEMENTS, *RETAIL PAYMENTS IN SELECTED COUNTRIES: A COMPARATIVE STUDY* (1999).

used. Securities payment transactions are typically transferred in book-entry form.³⁹

Regardless of the rapid innovations of the electronic payments in the U.S. banking system, many, including the former Chairman of the Federal Reserve, Alan Greenspan, believe that such payments still present a "paradox."⁴⁰ While the records and systems for handling large value payments (for example, banking records, including those for loans, deposits, and securities markets) are all electronic, the payment transactions predominantly selected by consumers are still carried out in paper currency and checks. The current disparity between consumers and banks in the adoption of electronic innovated payments undoubtedly occurred as result of many factors such as the perception of risk and relative sophistication in embracing new technologies.⁴¹ Banks went electronic by computerizing their banking records (deposits, loans, etc.) in the 1960s. Later, following the "paperwork crisis" between 1967 and 1970,⁴² securities markets began to adopt a highly automated recording and operating system.

By the 1990s, consumers were introduced to various electronic payment products and systems, such as VisaCash, Digicash, CyberCash, Millicent, Proton, PayPal, eMoneyMail, BillPoint, Payme.com, PayTrust, and Propay. Although such products seem more efficient and easier than previous (and current) forms of payment, they generally have limited applicability outside the specific areas for which they were designed.⁴³ However, the evolution of electronic payment instruments and systems shows that there are significant reasons to believe

39. See Isaiah Baker, *What Ever Happened to the Checkless Society?*, 7 U. MICH. J.L. REFORM 481 (1974).

40. See Alan Greenspan, Chairman, Fed. Reserve, Retail Payment Systems, Address at the National Automated Clearinghouse Association Annual Meeting (Apr. 10, 2000).

41. *Id.*

42. The "paperwork crisis" occurred as the New York Stock Exchange (NYSE) experienced a dramatic increase in trading volumes. Securities firms were caught unprepared, lacking the technology and staff to handle the increased workload. Back offices were thrown into confusion trying to process trades and maintain client records. Errors multiplied, causing losses. The paperwork crisis was so severe that the NYSE reduced its trading hours and even closed one day a week. In 1969, the stock market fell just as firms were investing heavily in back office technology and staff. Trading volumes dropped, and the combined effects of high expenses, decreasing revenues, and losses on securities inventories proved too much for many firms. Twelve firms failed, and another seventy were forced to merge with other firms. See Larry E. Bergmann, Senior Assoc. Dir., Div. of Market Regulation, U.S. Sec. & Exch. Comm'n, The U.S. View of the Role of Regulation in Market Efficiency, Address at the International Securities Settlement Conference (Feb. 10, 2004), available at <http://www.sec.gov/news/speech/spch021004leb.htm>.

43. A consumer still cannot buy a newspaper or a car with a credit card. Nor can a business use this widely popular device to pay its accounts payable.

that consumers and businesses both could adopt any new technological product as it comes along.⁴⁴

Some of the analyses of the long-term effects of automation on banking and finance were both insightful, and with hindsight, too conservative. The combination of computerized banking systems and telecommunications could fundamentally change both the business practices and banking regulations currently in place. Successive generations of technology, now including the Internet, have helped to accelerate the process of change and are inexorably creating a dynamic financial system.⁴⁵

Early analysis of electronic payments undoubtedly underestimated the transition costs of rapid automation and was most likely overly optimistic that computing and communications costs would decline. Changing and integrating the infrastructure within businesses and banking organizations and convincing enough players to adopt a new technology have posed many challenges.⁴⁶

Banks and other financial institutions saw the electronic payments processing as a lucrative business. The number of retail electronic payment transactions carried out in 1979 accounted for approximately fifteen percent of all retail non-cash payments. From 1990 to 2000, electronic payments saw an annual growth of more than ten percent and almost doubled between 1995 and 2000. In 2000, electronic payments reached close to forty percent of all retail non-cash payments and by 2004, amounted to about half of all non-cash payments. By 2000 banks were processing more than thirty billion electronic payments annually consisting of systems of credit cards, debit cards, and ACH. The continuing growth in the use of debit cards was a significant reason for this electronic increase. It is consistent that the proportion of payments by check decreased over this period from roughly eighty percent in 1990, to almost seventy percent in 1999,⁴⁷ down to about half of non-cash transactions in 2004.

New electronic innovations in the U.S. payments system, such as stored-value cards, mobile payments, and the customized electronic

44. See David C. Stewart, *The Future of Digital Cash on the Internet*, J. INTERNET BANKING & COMM., July 1997, <http://www.arraydev.com/commerce/jibc/9703-02.htm>.

45. See Robert L. Kramer & W. Putnam Livingston, *Checkless Society Computer Could Handle Your Money*, SEATTLE POST-INTELLIGENCER, Jan. 7, 1968, at 21.

46. See Patricia A. Murphy, *New Push to Cut Paper Intensifies*, BANK TECH. NEWS, June 2001, at 1.

47. See Roger W. Ferguson, Jr., Vice Chairman, Fed. Reserve Bd., Promoting the Use of Electronic Payments, Remarks at the Federal Reserve Bank of Chicago (Oct. 11, 2000), available at <http://www.federalreserve.gov/boarddocs/speeches/2000/20001011.htm>; Geoffrey R. Gerdes & Jack K. Walton II, *The Use of Checks and Other Noncash Payment Instruments in the United States*, 88 FED. RES. BULL. 360 (2002).

programs of various banks, could be even faster and more efficient than the more popular current payment products and methods. When electronic innovations occur, they might be most likely to succeed at the margins of commercial relationships—that is, pioneered by non-traditional firms, not banks, and gain acceptance in the free market by pushing the current generation of technology ahead into the future. The developing commercial environment's needs should be seen as the stimulus it has always been for the evolution of products. As the megaphone morphed into the cell phone, so might the check be transformed into the new electronic payment.

Implementation of some forms of electronic payments did not reach commercial fruition. However, they were experimental during the time when consumer Internet adoption was in an early stage and it was reasonable presuming that information providers wanted to sell access to content using micro-payments.⁴⁸ In contrast, many consumer payment innovations have succeeded and filled emerging commercial needs in the online environment. Even when electronic payment products do not reach the targeted commercial result, they still could be absolutely critical in building the case for new electronic innovations. These failed products may have contributed to technology in its early stages that raised broader consumer awareness.⁴⁹

Based on studies, wealthier, younger, and more educated individuals are the people most likely to use innovative electronic forms of payment rather than checks or other drafts.⁵⁰ However, as more individuals become familiar with electronic payment innovations, the gap diminishes between users and nonusers. For instance, in the early 1970s, credit cards were used primarily by individuals with higher incomes. Throughout the 1980s and 1990s, as more consumers gained access to credit cards, they became the payment choice for a significant portion of society.⁵¹

Electronic payments can be mainly divided into wholesale electronic payment transactions (non-consumer and high-value transactions), which are made principally by banks, businesses, and governments; and retail electronic payment transactions, which are

48. See Brian Mantel, *E-money and E-commerce: Two Alternative Views of Future Innovations*, CHI. FED. LETTER (Fed. Reserve Bank of Chi., Chi., Ill.), Mar. 2001, at 163.

49. See Brian Mantel & Timothy McHugh, *Competition and Innovation in the Consumer e-Payments Market? Considering the Demand, Supply, and Public Policy Issues* (Fed. Reserve Bank of Chi., Paper No. 5, 2001), available at <http://www.chicagofed.org/publications/publicpolicystudies/emergingpayments/pdf/eps-2001-5.pdf>.

50. See Joanna Stavins, *Effect of Consumer Characteristics on the Use of Payment Instruments*, 3 NEW ENG. ECON. REV. 19 (2001).

51. See Sandra Black & Donald Morgan, *Meet the New Borrowers*, CURRENT ISSUES IN ECON. & FIN. (Fed. Reserve Bank of N.Y., New York, N.Y.), Feb. 1999, at 1.

made by consumers. Wholesale electronic payments move through the Fedwire Funds Service,⁵² the Fedwire Securities Service,⁵³ and the National Settlement Service (NSS)⁵⁴ electronic funds transfer system, which is operated by the Federal Reserve. The Federal Reserve also operates the Fedwire book-entry securities service, which is used to transfer U.S. Treasury, federal agency, and mortgage-backed securities.⁵⁵ The NSS allows participants in private-sector clearing arrangements to exchange and settle transactions on a net basis through reserve or clearing account balances. The payments resulting

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52. Fedwire is a real time payments system operated by the Federal Reserve for financial institutions that have either reserve or clearing accounts at a Federal Reserve bank. Participants use Fedwire to handle large-value, time-critical payments, such as payments for the settlement of interbank purchases and sales of federal funds; the purchase, sale, and financing of securities transactions; the disbursement or repayment of loans; and the settlement of real estate transactions.
53. Transfers of Fedwire book-entry securities are initiated in the same manner as Fedwire funds transfers. More than 9,100 participants maintain a reserve account with a Federal Reserve bank and use the Fedwire Securities Service to hold and transfer U.S. Treasury and U.S. government agency securities (including mortgage-backed securities), as well as securities issued by certain international organizations such as the World Bank. These securities are held and transferred in electronic (book-entry) form; the U.S. Treasury and international organizations no longer issue physical securities, nor do most federal agencies. Securities transfers can be made free of payment or against a designated payment. Nonetheless, most securities transfers involve the delivery of securities and the simultaneous exchange of payment for the securities, a transaction called delivery-versus-payment. The transfer of securities ownership and related funds (if any) is final at the time of transfer. Access to the Fedwire Securities Service is limited to depository institutions and a few other organizations, such as federal agencies, state government treasurer's offices (which are designated by the Department of the Treasury to hold securities accounts), and limited-purpose trust companies that are members of the Federal Reserve System. Nonbank brokers and dealers typically hold and transfer their securities through depository institutions that are Fedwire participants and that provide specialized government securities clearing services.
54. NSS is available to arrangements that settle across Federal Reserve districts as well as to arrangements that settle entirely within a single Federal Reserve district. There are approximately seventy NSS participants including check clearinghouse associations, automated clearinghouse (ACH) networks, and credit card processors. NSS provides an automated mechanism for submitting settlement files to the Reserve banks, improves operational efficiency, and reduces settlement risk to participants by granting settlement finality on settlement day. NSS also enables Reserve banks to manage and limit risk by incorporating risk controls that are as robust as those used in the Fedwire Funds Service. Participants can submit NSS files for processing between 8:30 a.m. and 5:30 p.m. ET; files submitted earlier than 8:30 a.m. are queued for processing beginning at 8:30 a.m.
55. See *Role of the Federal Reserve in the Payment System: Hearing on H.R. 2119 Before the H. Comm. on Banking & Financial Service*, 105th Cong. (1997) (statement of Alice M. Rivlin, Vice Chair, Federal Reserve Board of Governors), available at <http://www.federalreserve.gov/boarddocs/testimony/1997/19970916.htm>.

from these wholesale systems flow through the three major interbank funds transfer systems: CHIPS⁵⁶, SWIFT,⁵⁷ and Fedwire.

The Fedwire Funds Service is used by more than 9,500 participating banks. They obtain a reserve or clearing account with a Federal Reserve bank and may use Fedwire to send payments to, or receive payments from, other account holders directly. The Fedwire Securities Service consists of a safekeeping function and a transfer and settlement function. The safekeeping function involves the electronic storage of securities records in custody accounts. The transfer and settlement function involves the transfer of securities between parties.

In 1996, Fedwire's average total daily transaction value for the electronic transfer of funds was approximately \$989 billion.⁵⁸ In 2000, Fedwire processed an average of 430,000 electronic payments daily, amounting to about \$1.5 trillion each day.⁵⁹

Wholesale electronic payments move over the Clearing House Interbank Payments System (CHIPS),⁶⁰ which is operated by the New York Clearing House. CHIPS is primarily used for clearing large value payments in international interbank electronic payment systems. In the last thirty-four years of its history, CHIPS' role in electronic payment transactions has increased steadily. For instance, in 2000, CHIPS processed an average transaction volume of approximately 237,200 payments per day. In 2004, CHIPS has processed about 257,000 payments per day. Thus payments processed by CHIPS with a gross value of approximately \$1.1 trillion in the year 2000, grew to approximately \$1.3 trillion in the year 2004. To date CHIPS

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56. The Clearing House Interbank Payment Systems (CHIPS) is a private sector system owned and operated by the New York Clearing House Association, which is an online, real-time, electronic payment system that transfers and settles transactions.
 57. The Society for Worldwide Interbank Financial Telecommunications (SWIFT) is a not-for-profit cooperative with headquarters in Brussels, Belgium. SWIFT is actually a financial messaging system rather than a payments system. The system facilitates interbank transfer of information but presupposes a separate system for effecting the payment.
 58. U.S. GEN. ACCOUNTING OFFICE, *PAYMENTS, CLEARANCE, AND SETTLEMENT: A GUIDE TO THE SYSTEMS, RISKS, AND ISSUES* (1997).
 59. See Federal Reserve Board, *Fedwire Funds Transfer System—Self Assessment of Compliance with the Core Principles for Systematically Important Payment Systems* (Dec. 19, 2001), <http://www.federalreserve.gov/paymentsystems/coreprinciples/coreprinciples.pdf>.
 60. CHIPS is a real-time, final payments system for U.S. dollars that uses bi-lateral and multi-lateral netting for maximum liquidity efficiency. CHIPS is the only large value system in the world that has the capability of carrying extensive remittance information for commercial payments.

processes over ninety-five percent of the U.S. dollar cross-border, large-value payments.⁶¹

Retail (i.e. consumer) electronic payment transactions have developed rapidly in the last few decades. The main payment mechanisms used for such transactions are credit and debit cards, automated teller machines (ATMs),⁶² point-of-sale (POS) terminals, telephone bill-paying services, and home banking. Payments by these mechanisms are generally, but not always, conducted online, and flow through some system approximating check truncation⁶³ and the ACH.⁶⁴ A number of innovations are taking place in the area of retail electronic payments such as stored-value cards, and electronic money or electronic cash ("e-money" or "e-cash"). These new electronic payments have the capacity to challenge the leading role of cash for making small-value payments. They could also make retail payment transactions more convenient and cheaper for consumers and merchants.

Credit cards and debits cards continue to play significant roles in electronic payment transactions. In 2002, U.S. credit and debit cards purchases per household averaged \$17,238; an increase of seventy-three percent from \$9,968 in 1997. By 2007, it is estimated that the volume of credit and debit cards purchases for each U.S. household could reach approximately \$27,978.⁶⁵

For consumers, credit cards are a particularly desirable means for carrying out electronic payment transactions. As a result of tough competition for more customers, the two major players in the industry, Visa and MasterCard, increased their cards' circulation in 2002 by approximately seven percent compared to 2001, totaling 525.3 million cards.⁶⁶ The total number of credit cards per each cardholder also rose almost four percent.⁶⁷

Credit cards offer an interesting example of electronic payment development in the U.S. Almost seventy-five years ago, credit cards started as store charge cards. In the 1960s, credit cards received a boost with the creation of branded bank cards, which have since be-

61. See CHIPS, What is CHIPS?, <http://www.chips.org/home.php> (last visited June 2, 2006); see also CHIPS, Annual Statistics from 1970 to 2006, <http://www.chips.org/docs/000652.xls> (last visited June 2, 2006).

62. An ATM is an electronic terminal that allows consumers to withdraw cash from their bank accounts, make deposits, check balances, and transfer funds.

63. See *infra* Parts II, IV.

64. The ACH payment mechanism was established as an electronic alternative to the traditional paper-based check collection system. Today it is used to conduct high volume repetitive transactions such as those involved in direct deposits, social security payments, and automatic bill-paying services.

65. See *U.S. Credit and Debit Cards Projected Thru 2007*, NILSON REP., Oct. 2003 (No. 797), at 6.

66. See *Visa & Mastercard—U.S. 2002*, NILSON REP., Mar. 2003 (No. 784), at 5.

67. See BD. OF GOVERNORS, FED. RESERVE SYS., *THE PROFITABILITY OF CREDIT CARD OPERATIONS OF DEPOSITORY INSTITUTIONS* (2003).

come popular. Consumers and merchants have now widely adopted credit cards for electronic payments. There have also been efforts to make the use of credit cards more secure over open networks and to increase protections to cardholders.

Credit cards have evolved into cards for general uses as well as those for particular types of purchases. Credit cards also provide convenience in usage to consumers, regardless of the hidden fees and other costs attached to their use. As the result of the high cost of credit card transactions, merchants frequently tend to discourage their customers from using them. Food retailers consider credit card transactions to be the most expensive form of payment. They find a credit card transaction to cost almost five times the cost of a cash transaction.⁶⁸

Among electronic payment devices, credit cards represent the principal category both in number of times used and in monetary volume of these uses.⁶⁹ However, starting in 2000, debit cards began a growth at a significantly higher rate and are now the fastest-growing payment vehicle. In 2002, the number and monetary volume of debit card transactions were approximately 13.41 billion and \$480.55 billion respectively, representing an increase of 24.2% and 23.8% over the prior year. One estimate is that by 2007, debit cards could account for 58.9% of consumer purchase transactions, or a number and monetary volume of 31.87 billion and about \$1 trillion respectively.⁷⁰

Credit card issuers (banks and other financial institutions) constantly seek to grow their online businesses. They encourage their customers to choose particular credit cards for online purchases. Some of the credit card issuers look at the Internet as a marketing mechanism by using online advertising to attract customers applying for new cards. Issuers are also using new methods to brand their cards with Internet companies which themselves are gradually increasing in number.⁷¹

Debit cards are widely used in point-of-sale transactions. Debit card transactions do not involve credit; they are connected to a customer's bank account. Debit card transactions made online typically require the customer to enter a PIN number to access his bank account, and the transaction amount is immediately debited from the

68. See FOOD MARKETING INST., A RETAILER'S GUIDE TO ELECTRONIC PAYMENT SYSTEMS COST (1998).

69. Credit cards were used in 15 billion transactions worth \$1,235 billion in 2000. Eighty-two percent of volume and eighty-seven percent of value came from general-purpose credit cards. Stanley J. Sienkiewicz & Marilyn Boicchio, *The Future of E-Commerce Payments* (2002), <http://www.phil.frb.org/pcc/conferences/futurepayments0902.pdf>.

70. See *U.S. Credit and Debit Cards Projected Thru 2007*, *supra* note 65, at 6.

71. See *Still a 1993 Look, But on a Much Larger Scale*, AM. BANKER, Sept. 14, 1999, at 4.

account.⁷² Young consumers, not as wedded to the checking system as older groups, particularly value the convenience of not having to write a check.

In order to increase the use of debit cards, banks and other financial institutions are also offering more consumer protection for debit card holders as well as higher incentives for using the cards. For this reason too, debit cards are becoming more attractive to consumers, particularly younger ones.⁷³

Debit card transactions are made possible through interlinked communication networks among participants (consumers, merchants, card issuing banks, merchant banks, etc). Online and offline debit card transactions operate in the same networks as ATM transactions.⁷⁴

Debit cards are increasingly used to obtain cash in retail purchase transactions. Credit card and ATM transactions, alternative methods of obtaining cash, typically involve greater costs to the consumer. ATM surcharges and other fees have risen. Unlike credit card transactions, a debit card allows the user to avoid fees for obtaining cash during a point-of-sale transaction.

Electronic innovations such as the ATM, which are not payment instruments but delivery mechanisms for cash, may well have supported the use of newer forms of electronic payments. ATMs initially offered a key banking service—cash withdrawals—around the clock. With the latest surge in deployments, ATMs are expanding into broad “point-of-sale” networks, which may ultimately improve the convenience of, and increase the demand for, online debit cards.

ATM cards are used in electronic terminals by consumers in order to access their bank accounts. The main purpose of introducing these cards in the 1960s was to allow consumers to withdraw cash from their deposit accounts. Since then, ATM card usage has increased substantially. In 2003, the banking industry processed approximately 900 million ATM transactions per month. Consumers’ use of their ATM cards off premises of their local bank is substantial. By way of example, during 2003, about sixty-four percent of the ATMs used by the consumers were located outside their local banks’ premises.⁷⁵ This was, of course, supported by judicial determinations and legisla-

72. Unlike online debit card transactions, offline debit transactions require a signature, and, while settlement is not immediate, authorization is required.

73. See Sujit Chakravorti & To Ted, *A Theory of Merchant Credit Card Acceptance* (Fed. Reserve Bank of Chi., Paper No. 16, 1999).

74. See Thomas M. Hoeing, President, Fed. Reserve Bank of Kan. City, *Payments and Settlement Systems: Future Players and Issues*, Remarks at the BAI Money Transfer 2000 Conference (Nov. 9, 2000).

75. ATM & DEBIT NEWS, EFT DATA BOOK: 2004 EDITION, at 44 (2003).

tive acts that made the use of cards off bank-issuer premises less likely to raise branch banking questions.⁷⁶

Debit card and ATM networks are used for Electronic Benefits Transfer (EBT) programs, which are used by government agencies to provide cash entitlement and food assistance benefits to recipients without bank accounts. Government agencies issue cards to recipients that allow them to withdraw cash from ATM machines or to buy food at the debit card terminals of designated stores. According to the U.S. Department of Agriculture, all states and territories are now using EBT systems to distribute food stamp benefits to recipients.⁷⁷

One category of innovative electronic payment instruments is “e-money,” which includes prepaid stored-value products. Funds in the prepaid stored-value products are kept in electronic form on stored-value cards (the magnetic-strip card) or on computer “e-cash” cards. Stored-value cards⁷⁸ are multipurpose cards (used to make various payments) or single-purpose cards (used more narrowly, for example, in subways, buses, or on particular highways). A multipurpose card can be used at a several service providers. The stored-value card may carry the logo of MasterCard, Visa, or another interbank network.⁷⁹ Multipurpose stored-value cards employ “smart card” technology by placing a computer chip in the card. These cards have not gained much acceptance in the U.S. because the telecommunications infrastructure works efficiently for online use of magnetic-strip credit and debit cards, but not yet for the newer stored-value cards.⁸⁰

Single-purpose stored-value cards are used in local transportation systems, with telephones, as photocopying cards, as electronic gift certificates, or as payroll cards. The use of these cards appears to be growing. In 2001, young consumers spent almost \$165 billion on

76. See *Indep. Bankers Ass'n of Am. v. Smith*, 534 F.2d 940 (D.C. Cir. 1976) (holding that a bank may provide for the use of a card off bank premises so long as those premises are not owned or rented by a bank); Omnibus Consolidated Appropriations Act for Fiscal Year 1997, Pub. L. 104-208, tit. II, § 2205 (1996) (providing that a branch does not include an automatic teller machine or remote service unit).

77. See United States Department of Agriculture, Food and Nutrition Service, http://www.fns.usda.gov/fsp/ebt/ebt_status_highlights.htm (last visited June 2, 2006); see also Food Research and Action Center, Food Stamp Programs—Benefits/Participation, http://www.frac.org/html/federal_food_programs/programs/fsp.html#Benefits (last visited June 2, 2006).

78. A stored-value card is a card on which monetary value is stored, through either prepayment by a consumer or deposit by an employer or other entity.

79. See Christoslav E. Anguelov et al., *U.S. Consumers and Electronic Banking, 1995-2003*, 90 FED. RES. BULL. 1 (2004).

80. See Federal Reserve Bank of New York, *Stored Value Cards: An Alternative for the Unbanked?* (July 2004), http://www.ny.frb.org/regional/stored_value_cards.html.

clothes, music, and entertainment using the stored-value cards.⁸¹ An accurate and current count of the use of stored-value cards is difficult to obtain due to lack of comprehensive data. In order to expand the usage of the stored-value cards, merchants will be required to invest more in adopting technology in their payment processing business. This has particular relevance to small merchants like neighborhood stores and street kiosks. Meanwhile, merchants could advance the case of the stored-value cards by joining in the marketing of the cards to consumers.

Stored-value cards require consumers to carry another card due to the currently limited retailer acceptance. Stored-value cards are expected, however, to be used extensively in situations where telecommunications and electronic authorization networks are costly due to the dollar amount of transactions; for instance, in mass transit, street kiosks, and vending systems. In pilot tests, consumers have been able to use stored-value cards only at a very limited number of locations. Locations that have accepted the cards often find them more cumbersome than cash. There have been no real market tests yet of cards that can be reloaded by home computers or telephones. In theory, this capability has great potential and could be equivalent to placing an ATM in every household. Alternatively, because consumers have not yet perceived the characteristics of stored-value cards to equal or improve on those of cash, the cards have not done well in the early tests. However, providers of stored-value products have an incentive to make their use more attractive than cash in terms of convenience, confidence, and complexity. Despite the lack of success in the pilot tests, it is quite possible that future tests will reflect an increased adoption of stored-value cards by consumers.

Smart cards also are emerging in the electronic payments system. Generally speaking, a smart card is a type of stored-value card with one or more chips (or microprocessors) embedded into the card. This makes the smart card capable of storing data beyond its cash value, performing calculations, and other functions. Smart cards' memory is typically updated every time the card is used. Smart cards are used in both "closed" systems (for instance, a mass transportation system) and "open" systems (for instance, MasterCard or Visa networks).⁸²

Smart cards have been used since the early 1990s by, for example, participants in federal welfare and food stamp programs to access the eligible individuals' benefits at ATM and at point-of-sale terminals in

81. See Frank D'Angelo, *Payroll Cards and Visa Buxx: Reloadable Stored Value Cards Offer New Relationship and Revenue Opportunities*, W. BANKING, Oct.-Nov. 2002, http://www.wib.org/wb_articles/delivery_oct02/reload_oct02.htm.

82. See Bank for International Settlements—Committee on Payment and Settlement Systems, *Glossary of Terms Used in Payments and Settlement Systems*, <http://www.bis.org/publ/cpss00b.htm> (last visited June 6, 2006).

grocery stores. Smart cards are also used in transportation systems, on military bases, and in universities. One of the largest issuers of smart cards is the U.S. Treasury, which uses smart cards to make payments and reimbursements to U.S. military personnel worldwide.⁸³

Smart cards are in the experimental stage. Consumers tend to be hesitant in using smart cards because they do not seem to offer benefits over other electronic payment instruments. Consumers have also expressed concern about loss and other risks related to the smart cards.⁸⁴ It is expected that smart cards could continue to be adopted in other niche markets.⁸⁵

Another electronic innovation in the U.S. payment systems is the "digital wallet." The digital wallet is software that allows the consumer to store credit card information on his or her personal computer, or on a server operated by the company issuing the digital wallet.⁸⁶ By making an online purchase, the consumer transmits his or her credit card information to the merchant with a single mouse click. Consumers are slowly beginning to use digital wallets for their online payments. In 2000, BizRate, an online shopping search engine, conducted a survey among 14,000 online purchasers and found that thirty-eight percent of the purchasers were familiar with the digital wallet. Although far short of an indication of actual use, this does represent a three percent increase in awareness compared to the prior year. The same survey showed also that thirty-five percent of those surveyed were not aware of digital wallets, and thirty-seven percent were "completely unfamiliar with the device."⁸⁷

83. See Anguelov et al., *supra* note 79.

84. See Sujit Chakravorti, *Why Has Stored Value Not Caught On?* (Fed. Reserve Bank of Chi., Paper No. 6, 2000).

85. See Brian Mantel, *Why Don't Consumers Use Electronic Banking Products? Towards a Theory of Obstacles, Incentives, and Opportunities*, (Fed. Reserve Bank of Chi., Paper No. 1, 2000).

86. According to definition provided by Webopedia, an online computer dictionary for computer and internet terms and definitions, a digital wallet is

[a]n encryption software that works like a physical wallet during electronic commerce transactions. A wallet can hold a user's payment information, a digital certificate to identify the user, and shipping information to speed transactions. The consumer benefits because his or her information is encrypted against piracy and because some wallets will automatically input shipping information at the merchant's site and will give the consumer the option of paying by digital cash or check. Merchants benefit by receiving protection against fraud. Most wallets reside on the user's PC, but recent versions, called "thin" wallets, are placed on the credit card issuer's server.

Webopedia, Digital Wallet Definition, http://www.webopedia.com/TERM/d/digital_wallet.html, (last visited June 6, 2006).

87. See Jayson Matthews, *Digital Wallets Usage Lagging*, CLICKZ NETWORK, Jan. 25, 2001, <http://www.clickz.com/stats/markets/retailing/article.php/570911>.

E-money is a device that will let consumers shop and send money to merchants online or perhaps pay for a movie over an interactive TV network. At some point in the future, e-money may gradually replace cash and checks for daily purchases in stores, restaurants, taxis, and other services. Businesses could also use e-money to buy office supplies or to transact directly with each other instead of going through banks and electronic fund transfers.⁸⁸

"E-money" seems to be leading to a new concept of pocket money and may be giving birth to a new commercial payment system for on-line payments, changing the way governments pay out benefits and revolutionizing the movement of value over telephone lines and airwaves. Yet, while adoption of an e-money system in small- and high-volume payment transactions is causing changes and opening up a wide variety of new services, it is nevertheless true that e-money products have not yet gained wide consumer acceptance. The concept of e-money (and what it can make available) is ahead of consumer demand. Perhaps consumers are still unclear how e-money works, its effectiveness and convenience in facilitating payments, the costs to carry out such transactions, or security and privacy issues.

Development of e-money systems along with other electronic innovations deserves legal and regulatory attention. In particular need of more consideration are such issues such as finding acceptable methods for authentication and protection of data and consumer information, accommodating the special needs of law enforcement, and creating the requisite means of settling disputes among parties (consumers, merchants, retailers, etc.).

Some of the companies which have developed the e-money payment systems, such as DigiCash, CyberCash, Microsoft, Xerox, Visa, and Citicorp, have steadily contributed to the development of e-money systems. For example, in 1991 Citicorp (now Citigroup), which is a leading institution in the electronic payments systems, created a payment system called the Electronic Monetary System. This is an entire electronic infrastructure using e-money to be issued by Citigroup and other banks.⁸⁹ Citigroup and other companies are part of an experiment that could make the U.S. payments system wholly electronic.

"E-cash" is a payment system based on smart-card technology, offering an alternative to paying cash for goods and services. E-cash cards can store and dispense cash electronically, transferring funds over phone lines or the Internet, making it easy to reload the e-cash cards. So far, e-cash has had little impact in payment systems. It has

88. See Kelley Holland & Amy Cortese, *The Future of Money*, BUS. WK., June 12, 1995, at 1.

89. See Jennifer K. Bloom, *A Glimpse Into the Future of Money, as Citi Sees It; Citicorp Developing Cash-Equivalent Electronic Money System*, AM. BANKER, Feb. 23, 1996, at 12.

not yet found the right way to crack the wallets of consumers and merchants.⁹⁰

The e-cash system can be used to make payments on the Internet in small amounts, too small for using credit and debit cards. E-cash might also be used for billing through Internet service providers. In this case, participating merchants send purchase information to a customer's Internet service provider who then adds the purchase information to the customer's monthly bill for Internet service. Other projects applying the use of e-cash system include billing through a customer's telephone company. Small-payment approaches like these could represent new variants on e-cash.⁹¹

Another type of electronic innovation payment is the "e-check," which is a payment instrument developed by the Financial Services Technology Consortium, a group of leading North American-based financial institutions, technology vendors, independent research organizations, and government agencies.⁹² The e-check imitates the paper check, except that the e-check is entirely electronic and thus not a "check" as defined by the Uniform Commercial Code.⁹³ All steps of the e-check transaction (drafting, delivering, depositing, clearing, and settling) are carried out electronically. The e-check is currently being tested on a limited basis by the U.S. Treasury Department.⁹⁴ By the end of 2000, the U.S. Treasury's trial usage had registered over \$10 million in payments securely disbursed over the Internet.⁹⁵

An emerging innovation in electronic payments is the electronic consumer-to-consumer (C2C) payment.⁹⁶ Online C2C payments have found some initial success in the online auction environment. However, only a small portion of online C2C payments are actually carried out between consumers.⁹⁷ In the near future, it is expected that developments in technology will make electronic C2C payments more accessible, convenient, and inexpensive. Nevertheless, payment

90. See Paul M. Eng, *Maybe E-Cash Won't Conquer the Net*, BUS. WK. ONLINE, June 11, 1998, <http://www.businessweek.com/archives/1998/b3583031.arc.htm>

91. See David G. Post, *E-Cash: Can't Live With It, Can't Live Without It*, AM. LAW., Mar. 1995, at 116.

92. See Financial Services Technology Consortium, About FSTC, <http://www.fstc.org/about/> (last visited June 2, 2006).

93. U.C.C. § 3-104 (1977).

94. See Stuart E. Weiner, *Electronic Payments in the U.S. Economy: An Overview*, ECON. REV. (Fed. Reserve Bank of Kan. City, Kan. City, Mo.), 4th Quarter 1999, at 1.

95. eCheck: Homepage, <http://www.echeck.org/> (last visited June 8, 2006).

96. See Tim McHugh, *The Growth of Person-to-Person Electronic Payments*, CHI. FED. LETTER, (Fed. Reserve Bank of Chi., Chi., Ill.), Aug. 2002, at 180.

97. This fact stems from fraud issues that have crept into C2C payments; the presence of people without computers who cannot carry out the transactions; a lack of incentive, promotion, marketing, and advertisement from the C2C providers; and regulatory concerns with purported C2C providers located outside the country.

providers are likely to continue to struggle to find the right combination of fees and incentives that will drive both consumer adoption and profitability.⁹⁸

ACH transactions play a significant role in the electronic payments; they are generally accepted and in wide use. The ACH network was created in early 1970s. It is an electronic payments system in which payment instructions are exchanged among participating banks and other financial institutions, which act on behalf of their beneficiaries (consumers, businesses, and governments). In general, the ACH system is available for businesses and the government, which make payments to masses of consumers or accept payments from them. The individual consumer has little use for the ACH, although there has been some continued growth in that area. The ACH network facilitates various transactions such as automatic payroll deposits, automatic utility bill payments, and corporate tax payments. The ACH network is also used as a settlement payment mechanism for ATM, credit card, and debit card transactions. According to industry, the volume of ACH payments processed by the Federal Reserve more than quadrupled from about 915 million in 1990 to 3.8 billion in 2000, representing a 14.2% annual rate of increase.⁹⁹ The private sector has also shown an increase in the volume of ACH payments processed. For instance, Electronic Payments Network (EPN)¹⁰⁰ processed over 3.4 billion payments in 2004.¹⁰¹

There are a number of parties which participate in an ACH transaction. The "originator," which can be an individual, business, or government, electronically transfers funds to the bank account of the "receiver." The originator and receiver obtain access to the ACH network through banks or other financial institutions. The banks and other financial institutions use an ACH "operator" (central clearing facility) in order to process, distribute, and settle electronic payment transactions.

There are presently four ACH operators in the U.S.: the Federal Reserve (the New York Automated Clearing House), the EPN,¹⁰²

98. See Press Release, Federal Reserve Bank of Chicago, Electronic Payment Usage Grows, Latest Chicago Fed Letters Shows (Aug. 7, 2002), http://www.chicagofed.org/news_and_conferences/news/2002_08_07_chicago_fed_letter.cfm

99. Allen N. Berger, *The Economic Effects of Technological Progress: Evidence from the Banking Industry*, 35 J. MONEY, CREDIT, & BANKING 141, 150 (2003).

100. Electronic Payments Network, <http://www.epaynetwork.com/home.php> (last visited June 2, 2006). EPN is the only private operator in processing and settling billions of ACH transactions valued at trillions of dollars each year. *Id.* EPN offers related services to help financial institutions (more than 1,600 of them) manage ACH operations effectively. *Id.*

101. See Press Release, Electronic Payments Network, ACHDirect Adopts EPN STP 820 (Oct. 10, 2005), <http://www.epaynetwork.com/cms/pressreleases/pr2005/001274.php>.

102. See Electronic Payments Network, *supra* note 100.

American Clearing House Association (ACHA),¹⁰³ and VisaNET ACH.¹⁰⁴ There were approximately 65 billion retail ACH transactions paid in the U.S. in the year 1995, and about 71.5 billion in 2000.¹⁰⁵ During 2000, the average in value of ACH payments made by consumers and businesses in mortgages, credit-card bills, payrolls, and other uses was somewhat higher than the average in value of check payments.¹⁰⁶ Since the late 1970s, government payments processed through the ACH network have increased steadily. This increase came particularly as the result of the Electronic Funds Transfer Act,¹⁰⁷ a federal act requiring federal payments be carried out by electronic fund transfers instead of checks. For instance, in 1997 in the U.S., seventy percent of Social Security recipients, and ninety-five percent of government employees used direct deposit.¹⁰⁸

The ACH has been very successful in automating many types of recurring payments. However, early use of the ACH did not provide the expected result to either consumers or businesses. To make an electronic payment over the ACH would once have required a special trip to a full-service banking office during regular business hours. As the ACH system has matured, it has become more available on a 24/7 basis to all parties. It is still, however, not generally available to the individual consumer who must make payments by cash, check, or one of the other evolving electronic devices.

Federal, state, and local government authorities have gradually increased their use of electronic payments. Most ACH-related transactions are originated by the government for payments to households and vendors. The Treasury Department now handles most of its payments by using the ACH system. However, the volume of the federal government's payments represents a small percentage of the entire system of electronic payment transactions.¹⁰⁹

103. According to its website,

[the ACHA] represents more than 11,000 financial institutions through direct memberships and a network of regional payments associations, and 650 organizations through its industry councils. [It] develops operating rules and business practices for the ACH Network and for electronic payments in the areas of Internet commerce, electronic bill and invoice presentment and payment, e-checks, financial electronic data interchange, international payments, and electronic benefits transfer.

NACHA, About NACHA, <http://www.nacha.org/About/default.htm> (last visited June 2, 2006).

104. See Visa, Newsroom—New Visa Commercial Brand, <http://www.corporate.visa.com/mc/facts/corporate/visanet.shtml> (last visited June 2, 2006).

105. Gerdes & Walton II, *supra* note 47, at 360–61.

106. The average value (in dollars) of check payments was \$925, and the average of value of retail ACH payments was \$1,009. *Id.* at 368.

107. 15 U.S.C. § 1693 (2000).

108. Stavins, *supra* note 50, at 22.

109. The volume of payments from the U.S. Department of Treasury in the year 2000 represented approximately 1.5% of all retail electronic payments. For more infor-

Electronic payment instruments are used widely to make retail payments. According to a 2002 survey conducted by the Federal Reserve, the use of debit and credit cards, and automatic deposits and withdrawals (through the ACH) grew fivefold from 1979 to 2000.¹¹⁰

There are still other wire payment mechanisms which are emerging, for example, electronic bill presentment and payment (EBPP) and point-of-sale check conversion. The latter is receiving increasing interest from businesses and consumers and has frequently been reported in the financial press.

Consumers use EBPP in order to receive and pay bills on the Internet. Banks and other financial institutions use the electronic bill payment mechanism to provide customers bill payment services. Customers, who have received bills in the mail from these services companies, can order (by telephone or online) their banks to make payment on their behalf. The use of electronic bill payment by consumers is on the rise. In 2004, electronic transactions made up thirty-six percent of consumer bill payments compared to twenty-three percent in 2001. In 2007, the share of electronic transactions is estimated to increase to about fifty-six percent of consumer bill payment.¹¹¹

In recent years, three main models have developed to facilitate the EBPP network: the "biller-direct" model, the "consolidator" model, and the "lockbox."¹¹² Under the biller direct model, the billing firm (for instance, a utility company) makes its bill available to the consumer on the utility company's website. In order to pay the bill, the consumer visits the utility company's website, accessing the bill and paying it by means of the ACH network or credit card. Due to the expansion of internet networking, the use of the biller direct model by customers is increasing steadily.

In the consolidator model, a third-party "presenter" collects bills from a number of billers and makes them available to the consumer at a central site. Another alternative is for the presenter to send the bills to the consumer by e-mail. In this case, the customer visits and pays the bill on the "presenter's" website.

mation, see Paula V. Hillery & Stephen E. Thompson, *Federal Reserve Banks as Fiscal Agents and Depositories of the United States*, 86 FED. RES. BULL. 251 (2000).

110. PAYMENTS SYS. DEV. COMM., FED. RESERVE SYS., STAFF STUDY 175—THE FUTURE OF RETAIL ELECTRONIC PAYMENT SYSTEMS: INDUSTRY INTERVIEWS AND ANALYSIS (2002), <http://www.federalreserve.gov/pubs/staffstudies/2000-present/ss175.pdf> [hereinafter STAFF STUDY 175].

111. Press Release, Bill Matrix Corp., Fiserv Signs Definitive Agreement to Acquire BillMatrix Corp., Provider of Expedited Electronic Bill Payment Services (July 27, 2005), http://www.billmatrix.com/press_releases/072705-Fiserv.html.

112. See Stuart Weiner & Terri Bradford, *Is Electronic Bill Presentment and Payment Poised for Growth?*, AT YOUR SERVICE (Fed. Reserve Bank of Kan. City, Kan. City, Mo.), Summer 2002, at 2, available at <http://www.kc.frb.org/frfs/ebpp.pdf>.

The third EBPP method, consumer lockbox, provides a means for consumers to receive their bills electronically by enrolling with and rerouting their bills to a lockbox provider, for example PayTrust.¹¹³ Upon receipt of the paper bills at the lockbox, they are scanned and converted to electronic statements, which are then presented to consumers to review. Payment to billers and fees to customers are quite similar to those associated with the consolidator method.

Banks understand the importance of providing electronic payment services to their customers. In 2004, over forty percent of U.S. banks and other financial institutions provided some form of website through which they can communicate with customers, and nearly fifteen percent of banks and other financial institutions have built websites that can be used to conduct online banking transactions. The numbers are growing rapidly. In 2004, of the banks and other financial institutions with more than \$500 million in assets, nearly fifty percent provide websites that can be used to conduct electronic payment transactions.¹¹⁴

The U.S. Census Bureau estimated that almost \$20 billion worth of retail payment transactions flowed over the Internet during the fiscal year ending in September 2000. This estimate did not include large-dollar business-to-business transactions, which recently have started to be carried out online for retail purchases.

We have referred to a substantial number of electronic innovations in electronic payment systems. Given the intense competition among service providers and the almost bewildering choices open to consumers and businesses, only a small number of these electronic innovations have enjoyed commercial success. However, the innovators' inclination to expand the range of options and techniques for making new electronic payments has been consistent with the long-term trend of the developing the U.S. payments system.

The Payments System Development Committee,¹¹⁵ a committee formed by the Federal Reserve to develop and implement the work

113. PayTrust is an Internet solution for bill delivery, payment, and management. It works with any bank and any payee that a consumer may have. While many banks offer the ability to issue payments online, the consumer is still required to track and manage all of the paper bills that come to his or her residence. See Paytrust—Complete Bill Management, <http://www.paytrust.com> (last visited June 2, 2006).

114. See Roger W. Ferguson, Jr., Vice Chair, Fed. Reserve Bd. of Governors, Electronic Commerce, Banking, and Payments, Address at the 36th Annual Conference on Bank Structure and Competition (May 4, 2000), available at <http://www.federalreserve.gov/BoardDocs/speeches/2000/200005042.htm>.

115. The Payments System Development Committee was formed with the initiative of the Federal Reserve Board of Governors on July 20, 1999. The Committee advises the Board and System officials on medium- and long-term public policy issues surrounding developments in the retail payments system. The Committee focuses on key issues involving the future development of payment systems that

commenced by the Committee on the Federal Reserve in the Payments Mechanism,¹¹⁶ is advising the Federal Reserve on the regulatory and operational barriers related to electronic innovation that inhibit the medium and the long-term development of an electronic payments system. The Payments System Development Committee has encouraged the Federal Reserve to revisit regulations related to electronic payments such as Regulation E, mentioned immediately below, in order to reduce residual barriers.

Most of the funds transfers affected by the electronic systems described in this chapter are governed by the terms of the Electronic Funds Transfer Act (EFTA) of 1978.¹¹⁷ It provides a basic framework for establishing the rights, liabilities, and responsibilities of participants in electronic fund transfer (EFT) systems. The EFTA was implemented by the Federal Reserve Board's Regulation E.¹¹⁸ Credit card transactions are not governed by EFTA, while debit card transactions are. Another limitation upon EFTA is that it governs only "consumer" transactions, those made for personal, family, or household purposes. Commercial EFTs are usually governed by Article 4A of the U.C.C.

In many areas of electronic financial services, the application of EFTA and Regulation E remain unresolved or open to dispute. For example, no final action has yet been taken to determine the impact of Regulation E on the Federal Reserve's 1996 proposal regarding the treatment of various types of stored value systems. Similarly, it is unclear how Regulation E may apply to various types of internet-based payment services. At the same time, the Federal Reserve is currently considering how Regulation E may apply to data aggregation services that permit consumers to execute transactions in their financial institution accounts.

Categories of electronic payments covered by the EFTA and Regulation E include transfers initiated through an ATM, POS terminal, ACH, telephone bill payment plans, and other banking programs. The Federal Reserve is actively involved in discussions on the interaction

facilitate consumer, government, and low-value corporate transactions. It serves as a forum for the analysis of technological and market trends, provides a mechanism for consulting with payments system providers and users, and advises the Board and System officials on the need for action by the Federal Reserve System on payment system topics. The Committee plays an active role, working collaboratively with the private sector to identify strategies to enhance the long-term efficiency of check and automated clearinghouse services, and to move to the next generation of payment systems.

116. The Committee on the Federal Reserve in the Payments Mechanism was created by the Federal Reserve in October 1996. Its purpose was to examine how the payments system is evolving and what part the Federal Reserve might play in the future.

117. See 15 U.S.C. § 1693 (2000).

118. See 12 C.F.R. pt. 205 (2006).

of new technology and business needs, and its effect on the design and function of clearing and settlement systems in the future. New technologies, along with the needs of e-business, appear to be leading to important changes in clearing and settlement systems. Due to the rapid pace of new electronic and hi-tech developments, the Federal Reserve continues to encourage electronic innovation in payments and their use by consumers, businesses, and government. The Federal Reserve is paying particular attention to banks, financial institutions, and other companies that integrate electronic innovations into their payment system network.¹¹⁹ No new payment mechanism is likely to achieve centrality among the multitude of devices available without the imprimatur of the Federal Reserve.

In 2000, approximately 29.5 billion electronic payments originated in the U.S. with a value of approximately \$7.3 trillion. Almost fifty-one percent of such electronic payment transactions were carried out using credit cards, and seventy-eight percent were handled by means of the ACH.¹²⁰ The volume of electronic bill payments, person-to-person payments, stored-value, internet currencies, and other emerging technologies is relatively small compared to other major electronic payments. Several categories within emerging payment groups (for instance, person to person payments) are expected to be important to watch in the coming years. Innovation in technology is moving so quickly that investments made now in the electronic payments system may well be obsolete in the next couple of years.¹²¹

Surprisingly, considering its relative electronic sophistication, the U.S. stands behind most developed countries (for example, Germany, Switzerland, and France) in its pace towards the use of electronic retail payments. The Federal Reserve is aware of this and is gradually undertaking measures to make electronic retail payments more attractive to consumers. The Federal Reserve has reduced the price for some ACH items, while still improving payment quality. Since 1995, the Federal Reserve has reduced prices for electronic payment transactions in order to promote this method of payment. The Federal Re-

119. See Roger W. Ferguson, Jr., Vice Chair, Fed. Reserve Bd. of Governors, *The Evolving Financial and Payment System*, Address at the Federal Reserve Bank of Philadelphia (Sept. 4, 2001), available at <http://www.federalreserve.gov/boarddocs/speeches/2001/20010904/default.htm>.

120. FED. RESERVE SYS., *RETAIL PAYMENTS RESEARCH PROJECT—A SNAPSHOT OF THE U.S. PAYMENTS LANDSCAPE 19* (2002), available at <http://www.frbervices.org/Retail/pdf/RetailPaymentsResearchProject.pdf>.

121. See *Government Performance and Results Act: Hearing on the Federal Reserve's Efforts to Conform to the Spirit of the GPRA*, 105th Cong. (1997) (statement of Alice M. Rivlin, Vice Chair, Fed. Reserve Bd. of Governors), available at <http://www.federalreserve.gov/boarddocs/testimony/1997/19970729.htm>.

serve estimated that ACH and Fedwire customers saved approximately \$41.8 million in fees by the end of 1998.¹²²

Consumers find the use of electronic payments more attractive and convenient than the check. Electronic payments are cheaper to process than paper instruments.¹²³ As a result, credit and debit cards, ACH transactions, and wire transfers in the U.S. system of payments are experiencing growth while the use of checks is declining. The annual growth rate of electronic payment transactions from 2000 to 2003 was 13.2%.¹²⁴

According to a survey conducted by the Federal Deposit Insurance Corporation, the number of checks used in retail transactions has declined from 49.5 billion in the year 1995, to 42.5 billion in the year 2000. During the same period of time, the number of retail electronic payments increased from 14.7 billion to 28.9 billion.¹²⁵

At this stage, it is difficult to predict the level of growth in electronic payment instruments. By simply leaving payment system development to the market, it seems fairly certain that electronic payment devices will continue to outstrip checks. The entry of government into the system with the enactment of such legislation as the Check 21 Act will undoubtedly have a dislocating effect. Whether the Act will affect development positively or negatively remains to be seen.

IV. THE CHECK CLEARING FOR THE 21ST CENTURY ACT

In 2000, the Federal Reserve started to investigate a concept for improvement of the check-clearing process. The Federal Reserve worked with industry and other stakeholders through numerous versions of a draft proposal. On December 21, 2001, Chairman Greenspan sent the legislative proposal of the Federal Reserve to the Chairs and Ranking Members of the U.S. Senate and House Banking Committees. Thereafter, both the House and Senate introduced bills con-

122. Federal Reserve Bank of St. Louis, *Electronic Payments Fees Plummet Again*, <http://www.stlouisfed.org/publications/cb/1997/d/cb1997d1.html> (last visited June 2, 2006).

123. See Kirsten E. Wells, *Are Checks Overused?*, *QUARTERLY REV.* (Fed. Reserve Bank of Minneapolis, Minneapolis, Minn.), Fall 1996, at 2; D.B. Humphrey & A.N. Berger, *Market Failure and Resource Use: Economic Incentives to Use Different Payment Instruments*, in *THE U.S. PAYMENT SYSTEM: EFFICIENCY, RISK AND THE ROLE OF THE FEDERAL RESERVE: PROCEEDINGS OF A SYMPOSIUM ON THE U.S. PAYMENT SYSTEM* 45 (D.B. Humphrey ed., 1990).

124. Federal Reserve Financial Services Policy Committee, *Federal Reserve Studies Confirm Electronic Payments Exceed Check Payments for the First Time* (Dec. 6, 2004), <http://www.federalreserve.gov/boarddocs/Press/other/2004/200412006/default.htm>.

125. Neil B. Murphy, *The Effect on U.S. Banking of Payment System Changes*, 16 *FDIC BANKING REV.* 67, 78 (2004).

cerning this proposal in the 107th Congress (2002). In the 108th Congress (2003), bills were introduced to the House¹²⁶ and the Senate.¹²⁷ Many banking organizations, including America's Community Bankers, Electronic Check Clearing House Organization, and Bank of America, monitored the legislative process and supported their passage.¹²⁸

In October 2003, both houses of Congress enacted what is now named the "Check Clearing for the 21st Century Act" (Check 21 Act), with October 28, 2004, as its effective date.¹²⁹ In response to the Check 21 Act, the Federal Reserve took regulatory initiatives by issuing Sub-Part D and commentary (Availability of Funds and Collection of Checks¹³⁰) to Regulation CC, revisions of federal Regulation J,¹³¹ and the Federal Reserve's *Operating Circular No. 3*.¹³² Other bank supervisor authorities are expected to follow suit.

Among the reasons that Congress decided to pass the Check 21 Act was the effect of the tragic events of 9/11 when the physical transportation and clearing process of original checks came to a virtual standstill. The Federal Reserve once again regarded the physical transportation of paper checks as slow, costly, and inefficient.¹³³ When the check payment system was abruptly stalled, the Federal Reserve was forced to take emergency action to continue the movement

126. See Check Clearing for the 21st Century Act, H.R. 1474, 108th Congress (1st Sess. 2003). The House of Representatives passed the Check 21 Act by a voice-vote of 405-0.

127. See Check Truncation Act of 2003, S. 1334, 108th Congress (1st Sess. 2003).

128. See W.A. Lee, *Truncation Debate Opens Today on the Hill; Law Would Allow Banks to Submit Substitutes to Other Banks or To Customers Who Have Not Agreed to Receive Electronic Versions*, AM. BANKER, Sept. 25, 2002, at 8; see also Chris Constanzo, *Debit Disputes Could Frame Check 21 Debate*, AM. BANKER, Apr. 2, 2003, at 9.

129. See Check 21 Act, Pub. L. No. 108-100, 117 Stat. 1177 (2003) (codified at 12 U.S.C. §§ 5001-5018 (2000)).

130. See 12 C.F.R. pt. 229 (2006). The proposed changes to Regulation CC including model forms for giving required disclosures to consumers were published by the Federal Reserve Board of Governors on January 8, 2004, and the final version of the Regulation was published on July 26, 2004.

131. See 12 C.F.R. pt. 210 (2006). Regulation J provides a uniform federal law upon which the Reserve banks conduct their check business by specifying warranties and indemnities that banks other depository institutions make when they send checks to a Reserve bank for collection, specifying warranties and indemnities that the Reserve banks make when they transfer, present or return an check to a bank or other depository bank.

132. See FED. RESERVE BANK, OPERATING CIRCULAR NO. 3: COLLECTION OF CASH ITEMS AND RETURNED CHECKS (2004), <http://www.frb-services.org/OperatingCirculars/pdf/Oc3.pdf>. The Circular includes the Federal Reserve's instructions to paying, collecting, returning, and depository banks for handling and paying return checks (and cash) received from the Federal Reserve banks.

133. See S. REP. NO. 108-79 (2003), available at http://banking.senate.gov/_files/rpts1334.pdf.

of checks.¹³⁴ Congress also intended to support the check-processing method in order to maintain its competitive level related to current and innovative electronic payment methods.

In this sense, the Check 21 Act is reminiscent of the Patriot Act,¹³⁵ which was also introduced with great haste after 9/11 and passed with little debate. As a result, both of these acts lack the legislative history that often provides the basis for necessary statutory interpretation. Even some high-level officials at the Federal Reserve admit that the Check 21 Act was proposed and passed in a rush and without the more usual careful consideration.¹³⁶

The Check 21 Act and related regulations add a new layer to some federal and state laws and rules, preempt others, replace some provisions and leave others in place.

The major contribution of the Check 21 Act is its invention of a substitute check into which the traditional check may be converted upon its deposit in a bank and which will, in this relatively uniform form, travel through the check-collection system in place of the original paper check. The substitute check must be a paper reproduction of the original check that contains an image of the front and the back of the original paper check.¹³⁷ The substitute check must also bear a MICR line, which contains information appearing on the MICR line of the original paper check or, to the extent generally applicable industry standards for substitute checks allow, only some of the information appearing on the MICR line. Furthermore, it must conform, in paper stock, dimension, and otherwise, with generally applicable industry standards for substitute checks and be suitable for automated processing in the same manner as the original check.¹³⁸

The bank must ensure that the substitute check states that "[t]his is a legal copy of your check. You can use it the same way you would use the check,"¹³⁹ complying with generally applicable industry standards.¹⁴⁰ The bank which transfers the instrument must also provide warranties that the substitute check is the equivalent of the original check in accordance with the Check 21 Act.¹⁴¹

134. See Michael G. Oxley, Chairman, House Comm. on Fin. Servs., Statement on the Check 21 Act Before the House Subcommittee on Financial Institutions and Consumer Credit (Apr. 8, 2003).

135. H.R. 3162, 107th Cong. (1st Sess. 2001).

136. At the request of these high-level officials at the Federal Reserve, the authors of this Article will not identify them.

137. See Check 21 Act, Pub. L. No. 108-100, § 3(16), 117 Stat. 1179 (2003) (codified at 12 U.S.C. § 5002 (2000)).

138. See *id.*

139. See *id.* § 4(b)(2).

140. The American National Standards Institute provides these industry standards.

141. The Check 21 Act does not directly require that the bank make the warranties in order for the instrument to qualify as a substitute check. The Federal Reserve,

While the substitute check must look similar to the original paper check and be processed in the same way as the original check, it does not have to look identical. For instance, its size can differ from that of the original check as long as its dimensions conform to banking industry standards.¹⁴² In addition, it does not have to have the same color or background design or configuration as the original paper check. As result, fraud detection features, such as signature ink and watermarks, suddenly lose their value.¹⁴³ The Check 21 Act also allows banks to use substitute checks even when consumers or the other banks request the original paper check.

The substitute check is a new negotiable instrument in the U.S. payments system. It is a paper reproduction of the original check which can be processed like the original check. Banks can truncate¹⁴⁴ a check, image it, use the imaged check to create a substitute check, and then process the substitute check as if it were the original check.

Upon demand, the bank can produce a substitute check. To be effective, the substitute check must conform to certain standards and be properly processed.¹⁴⁵ The standard format allows banks to transmit check information electronically, instead of producing the actual physical check. A bank can send another bank in the check collection process only the electronic information of the original paper check unless the latter bank refuses to accept the check electronically.

An important point with respect to consumer protection is that the consumer may use a substitute check as legal proof of payment, if a third party to whom the consumer owes money denies receiving the check payment from the consumer. Banks or other financial institutions which truncate checks are not required to keep the original paper checks or destroy them upon imaging. Consumers should not assume their original paper checks are destroyed at any stage of the check processing. The bank that truncates the check may, however, very well be a party to an image exchange agreement, which requires that original paper checks not be destroyed for a specific period of time.¹⁴⁶

however, reads section 4(a) of the Check 21 Act to intend this result. See 12 C.F.R. § 229.52 (2006).

142. See Check 21 Act § 3(16).

143. See Daniel Wolfe, *Consortium Seeks Standard to Verify Images of Checks*, AM. BANKER, Mar. 21, 2006, at 17.

144. Under section 3(18) of the Check 21 Act (the definitions section), "truncate" is defined as "to remove an original paper check from the check collection or return process and send to a recipient, in lieu of such original paper check, a substitute check or, by agreement, information relating to the original check . . . whether with or without subsequent delivery of the original paper check." See Check 21 § 3(18).

145. See *id.* § 3(16).

146. See ECCHO, Check 21: Frequently Asked Questions, http://www.eccho.org/check21_aids_faq.php (last visited June 2, 2006) (providing definition of "trun-

If the original paper check is needed for a particular purpose,¹⁴⁷ the consumer is encouraged to inquire from his bank whether the original paper check still exists.¹⁴⁸ A bank is not obligated to provide the original paper check to the consumer but only the substitute check.

Normally, the consumer and the bank enter into an agreement, either explicitly or, more customarily, implicitly, to regulate the consumer's periodic receipt of checks. Unlike the U.C.C., which authorizes the bank to provide the consumer with the original paper check or a legible copy, the Check 21 Act instead requires banks to send the consumer only a substitute check or a legible copy of the original check. The substantial difference between the U.C.C. and the Check 21 Act in this respect is that the Check 21 Act authorizes the bank to send the consumer the substitute check instead of the original paper check, provided that there is an agreement between the bank and consumer.

The bank must notify each consumer who requests a copy of an original paper check and who instead receives a substitute check.¹⁴⁹ It appears that if there is a joint account, the bank would send notice to each of the joint accountholders.¹⁵⁰ Commercial customers are not entitled to the same notice under the Check 21 Act. However, as a practical matter, banks are expected to inform their commercial customers of changes in check processing because the Act affects their activities too.

Banks provide warranties to customers. The bank that transfers, presents, or returns a substitute check and receives consideration for the check warrants that the substitute check meets the requirements for legal equivalence.¹⁵¹ The warranty is made to banks from which the substitute check is transferred, the drawer, the payee, the depositor, and any other endorser. The warranties are made any time a bank transfers, presents, or returns the substitute check.¹⁵² However, the bank which truncates the original paper check and then transfers the check by using electronic image exchange does not make warranties because the bank does not transfer a substitute check (or

cating bank" at question "C7"). The U.C.C. also provides that if, pursuant to the customer agreement, the bank truncates checks, the bank must have the capacity to furnish the original or, if it has been destroyed, a legible copy from the previous seven years. U.C.C. § 4-406(b) (1977).

147. For instance, permitting a handwriting expert to evaluate pressure points on the original paper check, clarifying a blurred number(s) on the substitute check, etc.

148. *See* Availability of Funds and Collection of Checks, 69 Fed. Reg. 1470, 1498-99 (proposed Jan. 8, 2004).

149. *See* Check 21 Act § 12(b)(4); *see also* Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1500.

150. *See* Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1500.

151. *See* Check 21 Act § 5.

152. *See id.*

an electronic or paper representation of a substitute check).¹⁵³ The customer receives a bank's warranties notwithstanding the fact that he receives the substitute check, another paper or electronic form of the substitute check, or for that matter, an original check.¹⁵⁴ The bank cannot disclaim these warranties or demand the customer waive the right to enforce them.¹⁵⁵ In a case where the legal equivalence defect is the fault of a subsequent bank handling the substitute check, the subsequent bank is liable for the breach of warranty.¹⁵⁶

The Check 21 Act establishes a warranty under which no party will be asked to pay a check which a bank, drawee, drawer, or endorser has already paid.¹⁵⁷ This warranty is not attached to a particular check. Reconverting banks, transferring banks, and returning banks therefore provide the warranty notwithstanding that the ultimate demand for double payment is based on the original check, the substitute check, or some other electronic or paper representation of the substitute or original check. The warranty is granted by banks, which transfer, present, or return a substitute check, even though the demand for duplicative payment results from a fraudulent substitute check of which the warranting bank does not have knowledge.¹⁵⁸ If the original paper check is not destroyed immediately, the original check (along with the substitute check) might be processed and presented for payment. This could result in double payment (debit),¹⁵⁹ and imposes a particular caution upon banks when they hold original paper checks.

The Check 21 Act protects consumers from losses derived from the creation of substitute checks. In this regard, the Check 21 Act establishes the consumer's right to claim an "expedited recredit."¹⁶⁰ The

153. *See id.*

154. *See id.* A person who handled only the original check does not receive the warranties.

[T]he warranties flow only forward to persons that receive a substitute check or something derived from [it]; they do not flow backward However, a person that initially handled only the original check could become a warranty recipient if that person later received a returned substitute check or a paper or electronic representation of a substitute check that was derived from that original check.

Availability of Funds and Collection of Checks, 69 Fed. Reg. 1470, 1497 (Proposed Jan. 8, 2004).

155. *See* Check 21 Act § 14; *see also* Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1489.

156. *See* Check 21 Act § 14; Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1489.

157. *See* Check 21 Act § 5 (codified at 12 U.S.C. § 5004 (2000)). The Check 21 Act uses the term "endorser." The U.C.C. spells it "indorser." *See* U.C.C. § 3-204 (1977). It is clear from the Check 21 Act that the terms are intended to be synonymous.

158. *See* Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1496-97.

159. *Id.* at 1497.

160. *See* Check 21 Act § 7.

right exists if the consumer shows in good faith that the bank charged the consumer's account for a substitute check provided to the consumer and either the check was not properly charged to the consumer's account, or the consumer claims a warranty pertaining to the substitute check.

If the bank determined by error not to re-credit the consumer's account, it may lead to the consumer's claim for damages, breach of warranty, or incurred loss.¹⁶¹ For instance, if the consumer, upon receipt of the bank's documentation and information to support the bank's basis for refusal to re-credit, responds to the bank by providing clear proof that the bank has committed error or wrongdoing in failing to re-credit the consumer's account, he has recourse to seek damages against the bank. The bank that re-credits the consumer's account is not protected from any liability or damage claim¹⁶² the consumer might make under other laws (for instance, claim for wrongful dishonor under the U.C.C.),¹⁶³ only the Check 21 Act.¹⁶⁴

Most of the damage claims under the Check 21 Act are limited to the amount of the substitute check, except in some instances when the consumer might recover consequential damages from the bank. In addition, the consumer is entitled to recover costs and attorneys' fees. Under no circumstance can the bank demand that the consumer waive his rights to claim damages or even the right to bring a legal action against the bank based on breach of the Check 21 Act.¹⁶⁵

Upon breach of warranty, the drawer, payee, endorser, depositor, other banks, and transferees can seek to recover damages from a re-converting bank (and any subsequent bank) for loss incurred. Damages include claims for costs and reasonable attorneys' fees, as well as other pertinent expenses.¹⁶⁶ In the absence of breach of warranty, the drawer, payee, endorser, depositor, other banks, and transferees can recover from a re-converting bank (and any subsequent bank) any loss that resulted from receipt of the substitute check. The loss should equal the total sum of the substitute check along with interest, expenses, costs, attorney's fees, and other pertinent expenses.¹⁶⁷ Under other warranties or other provisions of the Check 21 Act, the amount of liability cannot exceed the total sum of the substitute check, inter-

161. *See id.* § 6.

162. Section 6 of the Check 21 Act provides for an indemnity. Section 10 of the Check 21 Act is the general provision on the measure of damages.

163. *See* Check 21 Act § 7(g) (codified at 12 U.S.C. § 5006 (2000)).

164. *Id.*

165. *See* Check 21 Act § 14; *see also* Availability of Funds and Collection of Checks, 69 Fed. Reg. 1470, 1489 (proposed Jan. 8, 2004).

166. *See* Check 21 Act § 6(b)(1).

167. *See id.* § 6(b)(2); *see also* Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1498.

est, and expenses, including costs, reasonable attorney's fees, and other related expenses.¹⁶⁸

Under the theory of subrogation,¹⁶⁹ a bank should indemnify a consumer (drawer) of a claim by crediting his account with the lost amount. Thereafter, the bank can claim indemnity from the bank that presented the substitute check.¹⁷⁰ In this case, the indemnified consumer should assist his bank with reasonable information and documentation in order for the bank to pursue its indemnity claim against the subsequent bank or banks.¹⁷¹

Consumers can recover losses from reconverting (and subsequent) banks which resulted from a substitute check, regardless of whether these banks violated provisions of the Check 21 Act.¹⁷² On the other hand, consumers' claims against the drawer, payee, endorser, depositor, various banks, and transferees are limited to only interest and expenses, costs, reasonable attorney's fees, and other related expenses.¹⁷³

Those who breach a warranty related to a substitute check, or violate provisions provided by the Check 21 Act or other regulations, are liable to any person for the total sum of the substitute check or the amount of loss suffered due to the breach or failure, whichever is lesser.¹⁷⁴ The person liable will also be responsible for interest, expenses, costs, reasonable attorney's fees, as well as other expenses. This amount is then reduced by the sum the consumer receives as a re-credit.¹⁷⁵

Generally speaking, a consumer might recover damages due to breach of warranty or other provisions of the Check 21 Act. Recovery can be the amount of the substitute check and the accumulated interest.¹⁷⁶ However, if the consumer suffers a loss higher than that sum, he might recover the remaining balance. The consumer can bring claims for breach of warranty, indemnity, and other claims in order to recover the balance. He can base his claims not only on the provisions of the Check 21 Act, but also on other laws and regulations.¹⁷⁷

Liability under the Check 21 Act is based upon comparative negligence. This means any recovery is reduced by the proportion thereof

168. See Check 21 Act § 12(a).

169. See *id.* § 6(e) (codified at 12 U.S.C. § 5005 (2000)); see also Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1498.

170. See Check 21 Act § 6(e).

171. See *id.* § 6(e)(3); see also Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1498.

172. See Check 21 Act § 6(b)(2).

173. See *id.* §§ 6, 10.

174. *Id.* § 10(a)(1) (codified at 12 U.S.C. § 5009 (2000)).

175. See *id.* § 10(a)(2).

176. See Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1498.

177. *Id.*

attributable to the negligence or bad faith attributable to the recovering party.¹⁷⁸

The rule of comparative negligence does not reduce the consumer's rights under the U.C.C. or other applicable state or federal law so long as such other law or regulation is consistent with and does not contradict provisions of the Check 21 Act.¹⁷⁹ In particular, the Check 21 Act emphasizes the continued applicability of consumer protection law.¹⁸⁰ For example, with enactment of the Check 21 Act, the consumer can hold the bank liable both by claiming recredit of his account and also by claiming wrongful dishonor under the U.C.C.¹⁸¹ Additionally, the Electronic Fund Transfer Act and Regulation E of the Federal Reserve will continue to apply to checks converted in an electronic fund transfer, such situations as when a check is presented and then converted to electronic format at the point-of-sale. Finally, check clearinghouse rules and agreements with banks and other financial institutions are largely left intact.

Bank customers' deposited funds are expected to be available in shorter time under the Check 21 Act regime than before its enactment.¹⁸² Bank customers will also get their checks cleared in less time than before the Check 21 Act because it is anticipated that the lag time associated with the physical transportation of checks will be reduced.¹⁸³

The Check 21 Act does not provide legal equivalence for image exchange, nor does it mandate image acceptance. The Act only requires banks to accept a new negotiable paper instrument—the substitute check. It is the substitute check, not any check image which might be used in a particular system, that serves as the legal equivalent to the original paper check.

Electronic check presentment and image exchange will continue to be used only through agreements between and among banks.¹⁸⁴ The Check 21 Act does not provide for check truncation. It merely is structured to facilitate check truncations by removing legal impediments.

178. See Check 21 Act § 10(b).

179. See *id.* § 13; see also *id.* § 4(e); Availability of Funds and Collection of Checks, 69 Fed. Reg. at 1489.

180. See Check 21 Act § 4(e) (codified at 12 U.S.C. § 5003 (2000)).

181. See U.C.C. § 4-402 (1977).

182. The speed of electronic payment transfers decreases the "float" that permits consumer to keep his monies in his bank account for a certain period of time until the checks he writes clear. The Check 21 Act does not provide consumer remedies whenever the use of a substitute check, instead of an original check, causes a monetary loss to an individual. See Jim Davis, *Squeezing the Float*, BUS. J. KAN. CITY, Apr. 9, 2004, <http://kansascity.bizjournals.com/kansascity/stories/2004/04/12/story2.html>.

183. See Will Wade, *Many Clients Still in Dark on Check 21*, AM. BANKER, May 19, 2004, at 1.

184. See U.C.C. § 3-414 cmt. 2 (1977).

Banks and other depository institutions may decide to truncate original paper checks, process and deliver checks electronically, as well as print substitute checks at a location near the paying bank for presentment to the bank. This approach allows each bank to decide whether to make use of the new authority, judging the costs and benefits of doing so.

The Federal Reserve is taking steps to help meet the changing needs of banks in order to implement the Check 21 Act. In this regard, the Federal Reserve is working on completion of a check modernization system that provides nationwide standards for check processing and adjustments. The Federal Reserve has also built a national FedImage Services¹⁸⁵ archive and online check service via FedLine Web,¹⁸⁶ which further enhance and accommodate the proper processing of check-image transactions.¹⁸⁷ The Federal Reserve has also developed services for completing the existing paper and electronic check-collection systems and for delivering flexible solutions to support implementation of the Check 21 Act. These services include FedForward,¹⁸⁸ FedReturn,¹⁸⁹ and FedReceipt¹⁹⁰ product services, which were created to support the electronic clearing enabled by the Check 21 Act. These product services create value for business

185. FedImage Services is a standard check-imaging platform with a national image archive and enhanced research and retrieval capabilities. Any Reserve bank office is able to retrieve any check image regardless of where the check is processed. Bank customers can be able to perform quick look-ups of images over the Internet and can receive physical media (e.g., magnetic tapes and CDs). See Federal Reserve Financial Services, FedImage Services, <http://www.frb services.org/Retail/fedimage.html> (last visited June 2, 2006).

186. FedLine Web is a computer program using off-the-shelf browser software to access a secure Federal Reserve website. See Federal Reserve Financial Services, FedLine Web, http://www.frb services.org/Electronic-Access/app/Fedline_web.jsp (last visited June 2, 2006).

187. See Fed. Reserve Fin. Servs., *Special Report: Understanding Check 21*, FEDFOCUS (Fed. Reserve Bank of Chi., Chi., Ill.), Feb. 2004, at 2A, <http://www.frb services.org/FedFocus/2004/FedFocus204.pdf>.

188. The FedForward helps banks transform their operations to clear dollars quicker, reduce cost of transportation, streamline backroom operations, as well as extend deadlines. Such services include image cash letter deposit, electronic endpoint group sort, as well as paper deposit services.

189. The FedReturn assists banks in transforming their inbound and outbound returns processing operations to reduce return item risk, improve quality, and speed the returns process, while creating opportunities for substantial operating savings. Such services assist banks in achieving a streamlined, high quality, as well as low-cost returns operation.

190. The FedReceipt provides faster and more efficient clearing deliveries to image cash letters, which supports earlier posting to customer accounts, more efficient check-processing operations, and elimination of delays in transportation.

through favorable forward and return "image cash letters," and financial incentives for electronic receipt.¹⁹¹

The Federal Reserve's role is also felt in providing standards within the banking and financial industry, and in designing products and services that allow banks and other depository institutions to take advantage of the opportunities that have arisen due to the Check 21 Act. The Federal Reserve continues to introduce new products designed to allow banks to capitalize on the Check 21 Act. The most noticeable new products under the Check 21 Act include forward and return image cash letters, and image cash letter delivery.¹⁹² These products aim at improvement of the image checks processing system.

The Check 21 Act enables banks with image-enabled operations to send image cash letters directly to their Federal Reserve banks. Upon receipt, the latter send the letters to the appropriate local Federal Reserve bank or send the paying bank the image cash letters, which become substitute checks.

It is not the Check 21 Act that permits merchants to receive a check and then convert it to an ACH item. Although the Check 21 Act encourages banks to truncate checks, the Check 21 Act does not regulate or deal with the matter of converting checks to ACH. At first glance, the substitute check seems similar to electronic check conversion. However, there are notable differences. Electronic check conversion is an electronic fund transfer; the substitute check represents a continuation of the traditional check system. The electronic check conversion transaction is routed through the ACH network operation; the substitute check through the check-clearing system. For instance, upon receipt of the customer's check in a conversion transaction, the retailer scans the check for the financial information and converts the check into electronic mode. The retailer stamps "void" on the original paper check returns it to the customer and moves the payment along through the ACH system.

The electronic check conversion transaction is also normally provided in the customer's monthly bank statement along with other electronic or ACH related electronic payment transactions. A substitute check replaces the original paper check and is the legal equivalent of the original check. The substitute check is created from an image of the original and appears on the customer's monthly bank statement as an original check.

191. For more information about the Federal Reserve's services of FedForward, FedReturn, and FedReceipt, see Federal Reserve Financial Services, <http://www.frb services.org> (last visited June 2, 2006).

192. See Fed. Reserve Fin. Servs., *How to Prepare for Check 21 and a World of New Opportunities*, FEDFOCUS (Fed. Reserve Bank of Chi., Chi., Ill.), Feb. 2004, at 2A, <http://www.frb services.org/FedFocus/2004/FedFocus204.pdf>.

The Check 21 Act seems to offer more choices to banks than to consumers. Banks can continue processing paper substitute checks rather than electronic images. These banks will receive a paper substitute check rather than the original check from the prior bank in the collection chain. Consumers, however, may no longer choose to receive their original paper checks back.

The Check 21 Act contains a series of new risks, and the significance of these risks has yet to be measured. One new risk is that the first bank which adopts a substitute check receives fundamental liability for providing a good image to other banks that handle the check. Further, the Check 21 Act implicitly makes it the responsibility of the paying bank to define the quality that meets the definition of "accurately represent all of the information on the front and back of the original check."¹⁹³ If this definition is interpreted literally, it would be almost impossible for banks to implement it considering the current diverse and largely untested technology available. In order to mitigate such risk, banks of first deposit which adopt check-imaging solutions should pay particular attention to negotiating contractual terms with other banks to avoid liability.¹⁹⁴

In his remarks concerning the enactment of the Check 21 Act, Congressman Michael G. Oxley, Chairman of the House Committee on Financial Services, said:

[The] Check 21 [Act] grants banks useful tools to improve the delivery of services to their customers and expedite the flow of funds through the system. We must ensure that the efficiencies achieved are not reversed by excessive regulatory intervention. Consumers are well-protected through existing check law in the U.C.C. and other regulations. This bill [the Check 21 Act] does nothing to reduce these protections, and actually provides enhanced provisions for consumers.¹⁹⁵

The Federal Reserve and other banking supervisory authorities face challenges not only in supervising the implementation of provisions of the Check 21 Act from banks and other financial institutions, but also in adapting the current regulations that are affected by the enactment of the Check 21 Act.¹⁹⁶ The Federal Reserve's Sub-Part D to Regulation CC, newly promulgated to support the Check 21 Act,¹⁹⁷ should probably be expanded to include the American National Stan-

193. See Check 21 Act, Pub. L. No. 108-100, § 4(b)(1), 117 Stat. 1180 (2003).

194. See Paul M. Connolly, Chief Operating Officer, Fed. Reserve Bank of Boston, Preparing for Check 21, Remarks at New England Banker Forums (Oct. 2003), available at <http://www.bos.frb.org/news/speeches/pmc/2003/101703.htm>.

195. See Oxley, *supra* note 134.

196. See *Recent Developments in the Payments System: Hearing Before the H. Comm on Banking & Fin. Serv.*, 109th Cong. (2005) (Statement of Louise L. Roseman, Director, Reserve Bank Operations and Payment Systems, Federal Reserve), available at <http://www.federalreserve.gov/boarddocs/testimony/2005/20050420/default.htm>.

197. 12 C.F.R. § 229.51 (2006).

dards Institute (ANSI) industry standard, ANSI X9.90 (Generally Applicable Industry Standards)¹⁹⁸ as the exclusive standard for substitute checks. Revisions are also needed on the Federal Reserve's Regulation J concerning acknowledgment of substitute check warranties, as well as insertion of new warranties associated with electronic check images.¹⁹⁹

The Federal Reserve's *Operating Circular No. 3* also needs revisions in order to support the Check 21 Act's products, including electronic check deposit options and substitute check creation. The *Circular* should define procedures for warranty and indemnity claims or bank-to-bank re-credit requests.²⁰⁰

We cannot be dogmatic about the way the Check 21 Act will ultimately meld into the financial landscape. There has been comparatively little commentary about it from the banking community, and one widely-held belief is that the system of substitute checks will take its place alongside other processes that it resembles. The distinctions between Check 21 Act procedures and other related procedures for the payment of obligations may well be subtle at best. Two examples illustrate this point. First, take the April 2002 Treasury rule that authorizes federal agencies to convert signed checks into Automatic Clearing House (ACH) transfers, destroy the checks, and complete the transfer through the ACH system. This is close to the Check 21 Act procedure, but the check is never presented and paid. It is converted into an entirely different legal device subject to laws quite different from those applicable to the original checks.²⁰¹ The Check 21 Act, however, is never applicable.

Second, consider those few banks that have agreed among themselves to engage in electronic check presentment through images made from original paper checks.²⁰² This is not the technique envisaged by the Check 21 Act, but rather use of agreements among banks as previously authorized by law.²⁰³ The device is similar to the substitute check established by the Check 21 Act in application, but different in its methods.

198. See American National Standards Institute, <http://www.ansi.org> (last visited June 2, 2006).

199. See Fed. Reserve Fin. Servs., *Check 21 Supplement: Regulations Provide Roadmap for Check 21 Implementation*, FEDFOCUS (Fed. Reserve Bank of Chi., Chi., Ill.), Sept. 2004, at 3A.

200. For more information on the *Operating Circular*, see *supra* note 132.

201. See Federal Government Participation in the Automated Clearing House, 67 Fed. Reg. 17,895 (Apr. 11, 2002). The original checks were subject to U.C.C. Article 3; the ACH process is subject to the Electronic Fund Transfer Act and Federal Reserve Regulation E. Upon conversion, the transaction presumably departs from the former legal coverage and enters into the latter.

202. See *Image-Only Settlement Passes a Critical Test*, AM. BANKER, Sept. 1, 2004, at 1.

203. See section II.B.

V. VISIONS FOR THE FUTURE OR ADHERENCE TO THE PAST

The creation of a new system to process 40 billion checks a year—valued at approximately \$39.3 trillion—bears risks and uncertainties.²⁰⁴ Does the Check 21 Act represent a clear-eyed vision for the future, or a stubborn adherence to the past by embracing a payments system already in its death throes? We fear that the Check 21 Act represents the latter. The Act received insufficient consideration through the expedited legislative process that led to its enactment. For example, in the definitions section of the Act, “State” and “substitute check” were originally inserted in the bill in the wrong alphabetical order. The gaffe was never corrected.²⁰⁵

Banks have not rushed to spend their money on the truncation process or on check image exchange. Greater investment might have advanced the opportunities for electronic exchange and for a faster, cheaper payment system. The reluctance exists for a variety of reasons. One such reason is that the banks regard the operation of the Check 21 Act with uncertainty. Before they make a major investment in new equipment, they must at the least be convinced that the equipment will not become obsolete too soon after October 28, 2004, the effective date of the Check 21 Act. They know now, however, that the Check 21 Act does not require check image exchange. Instead, the Check 21 Act requires that banks accept a particular formatted printout of a check image, the substitute check. According to a survey conducted by an independent financial and technology services company,²⁰⁶ only two out of seventeen banks interviewed had planned to utilize check image exchange when the Check 21 Act became effective. The remainder of the banks planned to accept substitute checks, something that they will be required by law to do.²⁰⁷ They do not, however, plan to invest the capital that will be required if they are to image checks themselves.

In contrast to the Y2K spending forecast preceding the year 2000, the lead-up to the enactment of the Check 21 Act was met with virtual silence from the banking community. Wall Street analysts were told

204. See Mercator Advisory Group, *The Complexity and Risk of Check 21 Imaging Operations* (June 10, 2004), <http://pdfserver.prweb.com/pdfdownload/132258/pr.pdf>.

205. See Check 21 Act, Pub. L. No. 108-100 § 3(16)–(17), 117 Stat. 1180 (2003) (codified at 12 U.S.C. § 5002 (2000)).

206. Financial Insights is a company providing independent research services, custom consulting, and detailed multi-client studies on technology issues and challenges facing the financial services industry. See Financial Insights, *Strategic Financial Technology Research and Analysis*, <http://www.financial-insights.com> (last visited June 2, 2006).

207. See Aaron McPherson, *Check 21: Where's the Spending?*, BANK SYS. & TECH, July 6, 2004, <http://www.banktech.com/news/showArticle.jhtml?articleID=22103820>.

little about either the time frame of major technological upgrades or the costs involved in the implementation of the Check 21 Act. Analysts complained that they had not heard even one bank's chief financial officer discuss what changes the Check 21 Act would bring to his or her company. Gerard Cassidy of Royal Bank of Canada's RBC Capital Markets, commented: "Check 21 has fallen under the radar screen of investors. Banks just don't talk about it. I am very curious about why."²⁰⁸

By all accounts, the costs involved in the transformation to check image exchange seem to be substantial. It is worth mentioning that while the U.S. Securities and Exchange Commission instructed companies to break out spending and planning details for Y2K, the costs related to implementation of the Check 21 Act were to be carried in the general technology budgets.

Bankers are not able to come up with a figure for the costs required to implement the Check 21 Act. They see it as a difficult problem. Some numbers circulated around the U.S. banking industry, but as yet unproven, put the total cost at approximately \$10 billion.²⁰⁹ Celent Communications²¹⁰ estimated that annual information technology spending related to check imaging alone in the U.S. banking industry would increase from approximately \$550 million in 2004, to approximately \$1.9 billion in 2005.²¹¹

Banks also see uncertainty in the model for check-image exchange. Banks can either provide direct exchange of images between themselves (currently the direct image exchange is offered by SVPCO²¹² and Endpoint Exchange,²¹³ or they can exchange images between themselves and a central archive, such as Viewpointe Archive Ser-

208. See Matthias Rieker, *Check 21: Plenty of Talk, Except From CFOs*, AM. BANKER, June 1, 2004, at 1.

209. See *id.*

210. Celent Communications is a research and consulting company focused on the application of information technology in the global financial services industry. See Celent, <http://www.celent.com> (last visited June 8, 2006).

211. See Anuradha Raghunathan, *Cutting The Paper Chase; Banks May Soon Trade Images Instead of Traditional Checks*, DALLAS MORNING NEWS, Aug. 5, 2003, at 1D.

212. SVPCO provides electronic payment and e-check services to banks and financial institutions through automated clearinghouse, electronic check presentment, and check verification and conversion services. See SVPCO, Check and Electronic Clearing Services, <http://www.svpco.com> (last visited June 2, 2006).

213. Endpoint Exchange provides services to U.S. financial institutions and banks which clear their check-based transactions by exchanging images between member banks, S&L's, credit unions, servicers, clearinghouses, and the Federal Reserve. It is building the first and only electronic-clearing network that capitalizes on existing imaging infrastructure and settlement relationships. See Endpoint Exchange, Check Clearing for the 21st Century Act, <http://www.endpointexchange.com> (last visited June 2, 2006).

vices.²¹⁴ The centralized archive system has worked well for banks and other depository institutions. In the end, images need to be exchanged only when necessary, and then such images can be stored in one location. Various questions—for example, how frequent images will be retrieved from a central archive—could be answered only after the Check 21 Act's implementation. This is another reason that banks have put off any commitment to invest money in changing their check-processing technology.

Yet another factor in the slow pace of banks' investment in check image exchange is their ongoing merger activity. Noteworthy are activities of J.P. Morgan Chase, Bank One, Bank of America, and Fleet-Boston Financial. Because these banks are highly influential in the banking community, uncertainty about their ultimate check-image exchange policies affects other (smaller) banks' decisionmaking processes. Banks are additionally cautious of investing in new check-image exchange technologies because bank consolidation reduces the number of checks that need to be exchanged.²¹⁵

A serious concern among banks has to do with the quality of the check image. Unlike the world of the paper check where a bank sends a check for payment without worrying about the check's readability, that approach will not be the same with check image quality. Image-quality standards remain ambiguous and unresolved. Therefore, truncating banks face the risk that their check images will be accepted by some banks and not by others. Thus, banks are moving slowly and cautiously by undertaking small pilot projects, working out the kinks in their internal processes, as well as experimenting with different image-quality standards.

Banks are increasingly concerned with vendor immaturity, specifically that the vendors' vision exceeds their capabilities to provide safe and secure products and services in check image technology. Vendors frequently claim to have full control of check imaging, truncation, and exchange. However, many of the core components have been introduced within a short time prior to the Check 21 Act's implementation and have been integrated by only a few banks. Banks have even had difficulty getting proposals from their suppliers for products related to check images.

214. Viewpointe Archive Services provides check and document image archive and retrieval services for banks and other financial institutions. Viewpointe was founded by major banks in order to stimulate industry adoption of image technology, check truncation, and image exchange. See Viewpointe Archive Services, <http://www.viewpointearchive.com> (last visited June 2, 2006).

215. Banks and other depository institutions are reluctant to give up control of their images to a third party. As result, they plan to maintain their own internal archives. See Anne Gonzales, *Banking Industry Embraces Digital Imaging Checks*, SACRAMENTO BUS. J., Aug. 10, 2001, <http://www.bizjournals.com/cincinnati/othercities/sacramento/stories/2001/08/13/focus1.html>.

One of the most disconcerting effects resulting from the Check 21 Act is the expected disappearance of various features for detecting fraud.²¹⁶ Check alterations and forgeries will become more difficult to spot as parties lose access to the original paper and ink that display pressure points and other important features. Check images make common security standards such as micro-type and watermarks useless without providing suitable substitutes. Some physical security features, like the word "void" appearing when the check is copied, can be triggered by the imaging process itself. Under the check image and truncation process, many banks are concerned about counterfeit check stock making its way into the check stream.

Fraud could evolve as criminals regroup and exploit the weaknesses and vulnerabilities of new check-imaging processes. Although it is anticipated that the Check 21 Act will reduce clearing time, those who commit check fraud could exploit the extended float associated with checks drawn on non-image or partial-image enabled banks. They could also take advantage of the delays that result from the continued use of courier transportation for physical items, the lack of image capture at the point-of-deposit, and the need to reconvert images to substitute checks for settlement and returns.²¹⁷ Another concern among banks is that the time frame for them to place holds on deposited items is significantly reduced. This could make fraud more difficult to prevent.²¹⁸

Skeptics of the Check 21 Act think that check imaging may open the door to new kinds of fraud. As the result of digital printing technology, creating a fake check image might be easier than creating a fake paper check. In this respect, banks would need to upgrade their check-processing system in order to spot counterfeit check images. New technology and systems applications need to be developed and used to scan images and detect counterfeits. Banks will be forced to invest time, money, and resources to upgrade new technology.²¹⁹ Maintaining the physical security features of check stock will be crucial considering that many of the features will not survive the new electronic imaging process.

Like depository institutions, consumers will need to be more alert in order to prevent check-image fraud. They will need to carefully re-

216. See Steve Bills, *Preparing for Check 21, Harland Gets into Imaging*, AM. BANKER, July 12, 2004, at 19.

217. See Tamarind Phinisee, *Pending Check-Processing Law Will Bank on Digital Efficiency*, SAN ANTONIO BUS. J., Oct. 31, 2003, <http://www.bizjournals.com/sanantonio/stories/2003/11/03/story5.html>.

218. See Geoffrey Griffin & Richard Crone, *Using Check 21 to Maintain Your Place in Payments World*, AM. BANKER, July 9, 2004, at 10.

219. See David Wighton, *Change of Image for U.S. Banks*, FIN. TIMES, May 22, 2004, at 11.

view their bank statements. Preferably, they should look at their on-line transactions statement each day.²²⁰

Imagine if a bank has just been inundated with a new type of counterfeit check. Although check fraud is not new, substitute checks are different from the paper checks prior to the Check 21 Act. They are high quality and with a perfect signature. The carefully selected sum of the check could simply preempt the bank's fraud detection systems. The volume of fraudulent checks generated could also indicate a coordinated, large-scale fraud attack in the near future. Such schemes underscore the risk management challenge which banks might face as they move to image-enabled check processing. Fraud is already damaging to a bank's reputation. It might become significantly more potent in the Check 21 Act world as more banks place check images and statements online. This would effectively link the paper-check-based and electronic channels.

Banks are bracing to face particular scams relating to check images. These scams start with a massive phony e-mail campaign known as "phishing." Check fraud through phishing is one of the scams made possible by electronic channels and permitted by isolated fraud detection systems. The move to check-image exchange might complicate the matter of check fraud transactions.²²¹

In a phishing scam, the bank customer receives e-mails urging him to click on a conveniently provided link. Upon clicking, a fraudulent pop-up window appears seemingly as a legitimate website for the customer's bank. To the unsuspecting, such a pop-up window seems like an integrated part of the customer's bank website.²²² Normally, a pop-up window asks the individual to insert information with respect to his bank account. Through these schemes, criminals gain access to the bank customer's important data and information, such as his password and personal bank data information, potentially leading to identify theft. This costs banks millions of dollars, and by losing the customer's trust, damages the bank's reputation.

Operations under the Check 21 Act have not yet been sufficiently observed and evaluated in practice to determine its effect. There is, however, a concern that they might leave the payment system open to the perpetration of fraud. Vulnerability to the Check 21 Act's related phishing method is just one example of challenges faced by banks. Criminals could view check images online to access more details, such

220. See Dennis LaRue, *With Check 21, 'Float' Will Disappear*, BUS. J. ONLINE, Dec. 5, 2003, <http://www.business-journal.com/latededec03/check21.html>.

221. See Elazar Katz, *Check 21: Risk for Bankers, Opportunity for Fraudsters*, AM. BANKER ONLINE, July 23, 2004, http://www.unisys.com/financial/insights/insights__compendium/American_Banker-Check_21_Risks_and_Defenses.pdf.

222. See Daniel Wolfe, *New Techniques Make 'Phishing' Hard to Quantify*, AM. BANKER, Dec. 3, 2004, at 16.

as the customer's signature. They could also download and study bank statements, analyze recent check numbers, and review check amounts all without raising any suspicion. As a result, online bank statements and check images could provide criminals with all the information they need to issue almost undetectable counterfeit checks.

Banks, in addition, should look out for suspicious internet activities, making sure that their security measures are robust enough to withstand any new and unexpected wave of check-image fraud. In this respect, banks should explore new technologies for evaluating suspicious activities, which examine both the connection mechanics and the user's interaction with the site. This could alert the bank at the first indication of foul play.²²³

Banks might wisely introduce image-analysis tests selectively and intelligently. For instance, looking at components such as "signature verification" or "payee analysis" can help banks answer questions such as, "Was this group of checks written by the same person?" "Is the signature appearing on this group of checks a scanned copy?"²²⁴

Depository institutions will face immense changes should they migrate in any substantial degree to check images under the Check 21 Act. They have been dealing with paper checks for over a hundred years and have developed some of the most sophisticated counter-fraud techniques imaginable.

We have previously noted how electronic checks lack the sensory qualities to determine a check's authenticity, such as special coloring, raised printing, fingerprints,²²⁵ and even smell, which banks often rely upon. Law enforcement officials are showing their discontent with the move to digital imaging and the sacrifice of crucial forensic evidence on the paper check. They assert that imaging does not assist law enforcement in obtaining the proof required to prosecute check-fraud cases.²²⁶

The Federal Reserve openly admitted that law enforcement officials were not included in discussions before the Check 21 Act was passed by Congress. Fred Herr, Vice President of the Federal Reserve Bank of Atlanta, noted, "Law enforcement and financial institution fraud investigators have been completely left out of the loop."²²⁷

223. See Eric Young, *'The Check's In The Mail' Is So Twentieth Century*, S.F. BUS. TIMES, May 14, 2004, <http://sanfrancisco.bizjournals.com/sanfrancisco/stories/2004/05/17/focus2.html>.

224. Sun Microsystems, *Upgrade Bank Branches, Downsize Costs—Check 21 Legislation Could be the Catalyst Retail Financial Institutions Need to Modernize Branches* (Apr. 2004) http://www.sun.com/br/0404_ezine/fs_bank.html.

225. Some banks request that their customers stamp their fingerprints on a check, which is used as a security feature when these customers cash the items.

226. See Chris Costanzo, *Imaging Shakes up How Banks Handle Check-Fraud Detection*, AM. BANKER, July 2004, at 3, 7.

227. Will Wade, *Check 21's Unexamined Side Effect*, AM. BANKER, Apr. 27, 2004, at 1.

According to an online consumer poll carried out by Harris Interactive²²⁸ in May 2004, most consumers were completely unaware of the Check 21 Act as well as its potential impact on their current banking practices.²²⁹ The poll showed that almost ninety-five percent of checking account holders were unaware of this legislative action.²³⁰ This suggests that the U.S. bank regulators and banks have either underestimated the need to educate consumers about the Check 21 Act or simply failed to do enough in this regard. Whatever the case may be, failure for the industry to educate consumers might bring unexpected consequences. This could diminish consumer confidence at the inception in check images and truncation when selecting a means of payment.

The Check 21 Act might create a mixed and challenging processing environment. Big banks which are capable of exchanging images might profit by a reduction in “float” for those checks received on an earlier business day than when they would exchange paper checks. Until all banks are image-enabled, the forward collection of the resulting mix of image, substitute, and traditional paper checks might expand the processing cycle by one or more business days for those items affected.²³¹

According to a 2004 report prepared by Capco,²³² a consulting firm, implementation of the Check 21 Act will cost banks as much as \$10 billion during the period of 2005 to 2010. Capco’s report stated that the Check 21 Act poses “significant” revenue risks by migrating check processing to the ACH, offering digital checks at lower fees, as well as reducing check “float” fees. Adam Dener, a partner at Capco, stated, “Our hypothesis is that the issue is being looked at in a way that’s

228. Harris Interactive is a worldwide market research and consulting firm, which is known for applying Internet method to conduct scientifically accurate market research. It also combines proprietary methodologies and technology with expertise in predictive, custom, and strategic research. See Harris Interactive, <http://www.harrisinteractive.com> (last visited June 2, 2006).

229. See NCR, Check it Out: Consumers Don’t Have a Clear Image of Check 21 Law and Its Impact (June 18, 2004), http://www.ncr.com/media_information/2004/jun/pr061804b.htm.

230. *Id.*

231. See Primary Payment Systems, Inc., Fraud in a ‘Check 21’ Environment—The Ongoing Value of Receiving an Early Warning Notification (Sep. 28, 2004), http://www.early-warning.com/pdf/Fraud_in_a_Check_21_Environment.pdf.

232. Capco is a provider of services and technology solutions, which is focused on forming the future of the financial services industry. It also specializes in operational efficiency and technology; market infrastructure; and business innovation solutions for retail, wholesale, and investment banks, asset managers, broker dealers, private bankers, institutional investors, financial industry services providers, insurance companies, exchanges, alternate trading systems, central clearing organizations, depositories, and custodians. To learn more about Capco, see Capco, <http://www.capco.com> (last visited June 8, 2006).

disconnected from business issues.”²³³ Some banks might turn to outsourcing their check processing to circumvent the headaches of the Check 21 Act. “What’s going to happen with the costs associated with that check? What’s going to happen to the float? Is spending money on 100 different changes a worthwhile endeavor?”²³⁴

Big banks, which are wholly image-enabled and operate within the same geographic market, might continue to find the physical exchange of local checks more cost-effective. With the exception of the largest banks, most depository institutions are expected to expand the check image processing cycle by one or more business days for those items affected. The image capture for these banks will likely take place in a centralized location. These banks could also find themselves partially image-enabled and still reliant on the existing courier system in order to transport physical checks. In addition, banks might opt to outsource or use an intermediary company to exchange images, perform image conversion, and create substitute checks.²³⁵

The Check 21 Act might have an effect on posting and return of checks. Different processing capabilities among paying banks would subject banks and other depository institutions to a wide range of posting times and subsequent return notifications.

Banks hope that with the enactment of the Check 21 Act, they will be able to send, receive, post, settle, and return items on the same day. Although the purpose of the Check 21 Act is to eliminate, or at least reduce the physical transportation of checks, the only thing required of banks is that they be able to receive an image replaced document, notify customers, and process expedited recredits. Banks can still convert images to paper print-outs and continue using paper checks. Approaches to check processing might potentially set the stage for some interesting free-market payments system developments in not a too distant future.²³⁶

Banks face an unpredictable outcome with implementation of the Check 21 Act. Actual experience since its enactment does not yet tell us the degree to which the Act will be implemented. If the Check 21 Act does not take off as the Federal Reserve expects, any return on investment in check-image technology would be a long time coming.

233. John Adams, *Check 21: Perks Beyond Compliance Will Cost \$\$\$: Huntington Finds There's More Than Meets the Eye*, AM. BANKER ONLINE, July 1, 2004, <http://www.keepmedia.com/pubs/BankTechnologyNews/2004/07/01/532691?extID=10026>.

234. *Id.*

235. See Joe Gillen, *Check 21: New Federal Legislation Will Change Check Clearance Rules*, HOUSTON BUS. J., June 7, 2004, <http://www.bizjournals.com/houston/stories/2004/06/07/focus8.html>.

236. See Jennifer Gordon, *Act Makes Banks Get Set for High-Tech Check Changes*, BUS. FIRST (Louisville, Ky.), Jan. 26, 2004, <http://www.bizjournals.com/louisville/stories/2004/01/26/story6.html>.

On the other hand, if some banks wait and the Check 21 Act does take off in the way expected by some legislators and bank regulators, these banks would be playing catch-up for too long a time.

Banks are figuring in the cost and benefits of using companies like Viewpointe Archive Services,²³⁷ which is a clearinghouse for electronic check imaging owned by a consortium of large banks. Banks use such services to outsource image check-processing services. Concentrating the business of outsourcing with a few companies might create problems for small banks, who could find it costly and difficult to compete with these companies in the business of check imaging. Worse yet, these companies now offer differing technologies in check imaging. This makes it very hard for a bank to switch from one service into another. Companies like IBM, Unisys, BISYS Document Solutions, and NCR, whose broad technology and consulting portfolios fit the multifaceted nature of the Check 21 Act's challenges, are expected to prosper in the check-imaging business.

There are many impediments to the Check 21 Act taking over as a new form of check clearance. One is ignorance: A survey of small businesses revealed that nearly three-quarters of them had never even heard of the Check 21 Act, even though they may be affected by it.²³⁸ Consumers are even less aware. According to a survey taken by Harris Interactive in May 2004, out of the ninety-three percent of individuals surveyed who had checking accounts, ninety-five percent were unaware of the Check 21 Act.²³⁹

Another impediment is the need for new bank investment in equipment. Banks are cautious, usually investing just enough to move customers toward electronic transactions without getting ahead of the curve. It will take an industry-wide adoption in order to make the evolution to a paperless society worthwhile. Banks are taking a very judicious view of how and when they invest, and are moving at various speeds.²⁴⁰

The absence of experience leads to uncertainties about who will be hurt by the new Check 21 Act processes. It is expected that one of the

237. Viewpointe Archive Services is the main clearinghouse for storing check images and exchanging them among participating banks. Viewpointe is the largest provider of digital check and document imaging, archiving, and retrieval services in the United States, with a combined customer list representing over forty percent of the annual U.S. check-processing volume. Viewpointe's goal is to provide image exchange, the ultimate benefit of imaging, on a national scale. See Viewpointe Archive Services, *supra* note 214.

238. See Gwendolyn Bounds, *How a New Banking Law Will Impact Small Firms*, WALL ST. J. ONLINE, June 11, 2004, <http://www.startupjournal.com/columnists/enterprise/20040610-bounds.html>.

239. See *News Bytes*, TRANSACT (Am.'s Cmty. Bankers, Wash., D.C.), Fall 2004, at 4, <http://www.americascommunitybankers.com/publications/transact/ta04fall.pdf>.

240. See David Becker, *Banking Law Mints Tech Windfall*, July 16, 2004, CNET NEWS.COM, <http://news.com.com/2100-1001-5271187.html>.

worst to be hit will be pilots and companies who have been making their livings flying checks overnight. For example, some twenty-five percent of the Mitsubishi MU-2 fleet is involved in check-flying under contracts with the Federal Reserve. If that market disappears upon implementation of the Check 21 Act, pilots will be unemployed and company profits would plummet.²⁴¹

Like overnight check-flying companies, companies in the check-sorting business will suffer similar consequences. They are struggling to find ways to enter into the business of printing check image replacement documents. In addition, companies involved in printing checks and shuttling them around the country in armored cars are struggling to survive. For example, Deluxe Corporation,²⁴² a leading company in the check-printing industry, closed three of its thirteen printing plants in the year 2004. It is also fighting for its profits by pushing higher-priced check designs and fraud-prevention services.²⁴³

Definitive numbers on the actual cost of clearing checks do not exist. However, the banking industry agrees that the cost of a check-based transaction is substantially higher than an electronic transaction.²⁴⁴ While it is anticipated that the Check 21 Act will save money for banks over the long term, technology and staff training will cost banks dearly in the short term. Gary Cawthorne, Managing Partner at Unisys, a worldwide company specializing in consulting, systems integration, outsourcing, infrastructure, and server technology,²⁴⁵ believes that "as this [check-processing technology] evolves, there are going to be benefits, but there are also reengineering costs and training costs."²⁴⁶ According to Unisys, there are more than one hundred areas in which banks are not prepared for full implementation of the Check 21 Act beyond basic compliance. Cawthorne added: "All the legislation says is that you have to receive replacement documents in place of paper. It's a simple requirement. If that's all you do, you don't get the full benefits of truncation."²⁴⁷

Much of the attention generated by the Check 21 Act is on purchasing new technology in order to create check images. However, there

241. See Mark Phelps, *Check 21 Law Not Likely to Affect Check Haulers*, AVIATION INT'L NEWS, Jan. 2004, http://www.ainonline.com/issues/01_04/01_04_check21p41.html.

242. For more information about the Deluxe Corporation, see <http://www.deluxe.com> (last visited June 8, 2006).

243. See Andrew Park et al., *Checks Check Out*, BUSINESSWEEK.COM, May 10, 2004, http://www.businessweek.com/magazine/content/04_19/b3882606.htm.

244. See *Ready or Not, Here Comes Check 21!*, BANK NOTES (RSM McGladrey, Inc., Bloomington, Minn.), May 2004, http://www.rsmmcgladrey.com/Resource_Center/Newsletter_PDFs/BankNotes/BN_may04.pdf.

245. For more information about Unisys, see <http://www.unisys.com> (last visited June 8, 2006).

246. Adams, *supra* note 233.

247. *Id.*

are other downstream technologies which need to be upgraded or replaced altogether in order for banks to reap benefits provided by check imaging. Banks now need to create archives in which to store images. Many banks have not appreciated that their clearing processes are dependent on physical checks and must be re-engineered to accommodate imaging. In 2004, only approximately sixty percent of banks were equipped to handle electronic imaging. The rest, mostly small banks, did not have the cash required to purchase machinery to handle electronic data transfers. These banks were—and still are—taking a wait-and-see attitude.²⁴⁸ The Check 21 Act has not made a significant impact on banks' plans, according to a survey in 2004 conducted by Capco.²⁴⁹

With or without the Check 21 Act, larger banks such as Bank of America and J.P. Morgan Chase were already planning to enhance their check-processing efficiency by presenting image-replacement documents instead of original checks. They were doing so for reasons related to business and not regulation.²⁵⁰

Some banks, without the Check 21 Act, have taken advantage of check-image replacement in customers' monthly bank statement (sent by mail or online). If a bank wants to get images only for the purpose of statements, the bank does not have to do it on prime-pass, when the bank first receives and processes a check. The bank can do it later.²⁵¹ Using replacements on prime-pass seems to have more wide-reaching implications because it enables banks to "reject" and "repair" items without the proof encoders need. Electronic item processing could be moved anywhere.

According to Capco, under half of the large U.S. banks and one-third of the small banks surveyed considered prime-pass imaging. Overall, about twenty-five percent of banks considered the use of image for day two processing of returned checks and exception items.²⁵²

Jobs within banks, particularly those of bank tellers and encoders, might be affected as a result of the Check 21 Act. A significant portion of the bank tellers' workday is spent balancing and controlling transactions. If imaging enabled bank tellers to skip many of these tasks, they would become what could be described as a concierge for super-ATMs. Some banks, such as Washington Mutual and Liberty Bank (Middletown, Connecticut), have already started to implement this ap-

248. See Joel J. Smith, *Check 21 Speeds up Processing*, DETROIT NEWS, Jan. 4, 2004, at 8B.

249. See Ivan Schneider, *Check 21 or Bust?*, BANK SYS. & TECH., Nov. 3, 2003, <http://www.banktech.com/rdelivery/showArticle.jhtml?articleID=15800529>.

250. See Chris Constanzo, *Banks Busy with Check 21, Even If Congress Isn't*, AM. BANKER, June 11, 2003, at 3.

251. See Tim Mazzucca, *Clearing the Way for Digital Checking*, WASH. BUS. J., July 30–Aug. 2, 2004, at 29.

252. Schneider, *supra* note 249.

proach. Liberty Bank plans to experiment with a check-imaging machine at the teller line.²⁵³ The implications of the new technology for the entire item processing operation are enormous. They can affect a bank both at a strategic and an operational level. There is little real understanding of this process. The Check 21 Act seems to look to the future while still embracing the checking system of the past.

A seamless integration of paper, image, and data may make banks' evolutionary adaptation to the Check 21 Act possible at some time in the future. Whether the investments in money and time will be made to achieve this is questionable. They are not being made now. This requires more efficient and cost-effective processing of the declining or stagnating check volumes in tandem with a gradual introduction of electronic payment transactions. Imaging alone will not resolve the deposit processing issues that the Check 21 Act raises. Nor will the Check 21 Act provide the benefits of truncation it promises. Image technology and truncation are just parts of the equation. Cohesive integration of voluminous data at the instant of capture, with the business systems relying on new forms of transaction information, is equally significant. An integrated image and data technology can make paper, electronic data, and image theoretically work together for optimum efficiency and profitability in deposit processing operations. If consumers are to receive the benefits they expect from check-image technology it now seems unlikely that they will derive it from the Check 21 Act.²⁵⁴

The Check 21 Act does not require banks to convert to electronic imaging for capture and deposit. It was suggested in 2003 that the Federal Reserve would speed the movement away from checks in favor of electronic imaging if it attached a surcharge to paper copies of checks.²⁵⁵ In fact, the Federal Reserve did just that in November 2004 by increasing its fees "a steep 7.9%."²⁵⁶ Whether this was a Machiavellian move to encourage electronic processing, or simply a revenue enhancing device, is open to question.

The implications of the Check 21 Act are both unknown and immense. According to the Federal Reserve, there is an average of 41 to 45 billion paper checks processed every year.²⁵⁷ Almost seventy percent of these checks move between banks and other financial institutions for payment processing. While retaining much of the traditional

253. *Id.*

254. See Susan Barclay, European Union Banking & Financial News Network, The Virtue of Whole Transaction Integrity for Check 21, http://www.eubfn.com/arts/Barclay_SP2003.htm (last visited June 2, 2006).

255. See Robert Kapler, *Getting Serious About Check 21—Finally*, U.S. BANKER, June 2003, at 22.

256. Will Wade & Damian Paletta, *New Fed Fees May Hasten the Inevitable*, AM. BANKER, Nov. 5, 2004, at 1.

257. Murphy, *supra* note 125, at 72.

checking system, the Check 21 Act also introduces new concepts that will have to be harmonized with the U.C.C. Article 3 structure if the Check 21 Act becomes generally accepted. Although there are still approximately 40 billion checks written annually in the U.S., the number of checks converted to substitute checks under the Check 21 Act is likely to be a fraction of the total.²⁵⁸ Widely accepted practices may have to be revised;²⁵⁹ consumer and business customers will need education. And yet, all of this change is at best speculative.

Consumer representatives have expressed their concern with the Check 21 Act. They note that the Act changes the widely accepted practice of millions of people who prefer to receive their original checks back. They point out that although the Check 21 Act allows checks to be processed more like electronic payments, consumers are not provided with the same dispute-resolution and liability protections as with electronic payments.²⁶⁰ They believe that consumer protections are the most challenging policy issue in the Check 21 Act's provisions.²⁶¹

Thus it appears that although the Check 21 Act hews to the old check-processing systems, its actual effect upon those systems—and the businesses, banks, and consumers who use them—is extremely uncertain. Bankers complain that there is sheer confusion about the Check 21 Act and what it does and does not do. Most bankers in the State of Connecticut expect the Check 21 Act to have very little impact on their own state's banking industry.²⁶² "It's not going to change the way we collect and process checks at all," Robin Fujio, Vice President of Liberty Bank, said. Roy Balkus, Vice President of Naugatuck Savings Bank in Connecticut, had a similar viewpoint: "It's really not going to make as many changes as some people think."²⁶³

These bankers say that the Check 21 Act's publicity makes it sound like the Act is about sending electronic images and lead to truncation. But it is not; the Check 21 Act only requires banks to accept a paper substitute check.²⁶⁴ It is almost inconceivable that while check

258. See Linda Goodspeed, *Clearing Up Check 21*, CONN. BANKING, 2nd Quarter 2004, <http://www.thewarrensgroup.com/wp/ctb/ctb2q2004/070514200400001.asp>.

259. See *Check Clearing for the 21st Century Act: Hearing on H.R. 5414 Before the H. Subcomm. on Fin. Insts. & Consumer Credit of the Comm. on Fin. Servs.*, 107th Cong. 23 (2002).

260. See 12 C.F.R. §§ 7.5000–10 (2006).

261. See *id.*

262. See Goodspeed, *supra* note 258.

263. *Id.*

264. See Thomas Hartley, *Banks Check Out New Image*, BUS. FIRST BUFFALO, July 16–22, 2004, at 1, 42. The Expedited Funds Availability Act provides for one business day to clear a local check and four business days to clear a non-local check. See 12 U.S.C. § 4002(b)(1)–(2) (2000). These provisions concerning check clearance time are not affected by the Check 21 Act, at least for the time being.

writing and clearance are in continuous decline,²⁶⁵ the Federal Reserve is trying to find a way to save checks by introducing and supporting the Check 21 Act.

Even where it appears to cover the ground, the Check 21 Act raises problems. Part of the reluctance to invest in the new systems is quite simply an inability to understand them. For example, bankers voice confusion over a provision in the Check 21 Act that covers expedited re-credit, requiring banks to act more quickly to resolve disputed checks than required under current banking regulations. But there seem to be discrepancies between the Check 21 Act and other laws related to the business of checks. Under the U.C.C., banks typically have two to three weeks to investigate a disputed check before crediting the funds back to a customer's account. On the other hand, provisions of the Check 21 Act give banks only ten days to complete the investigation of a disputed item before re-crediting the account.

Bankers also express confusion about the fact that the re-credit provision under the Check 21 Act gives customers only forty days to make a claim, while Federal Regulation E²⁶⁶ gives customers sixty days to make a claim.²⁶⁷

Another odd element about the Check 21 Act is that the introduction of electronic check image transactions to the check-clearing process will negatively affect the price banks will pay to clear their paper checks. In other words, clearing paper checks, which prior to the implementation of the Check 21 Act was not expensive on a per-check basis, becomes more costly under the Check 21 Act as the volume of paper clearing declines. In the end, banks are expected to pass such cost onto their customers, who will then find writing checks in the course of their business more expensive and less attractive than other electronic payment mechanisms.²⁶⁸ As noted, this may have the indirect effect of pushing transactions from the paper to the electronic; but it also seems unplanned.

Where issues of damages are concerned, the Check 21 Act makes a bad scene worse. The Check 21 Act provides for damages in the amount of the actual loss or the amount of the check, whichever is less.²⁶⁹ Revised Regulation CC eliminates the former option;²⁷⁰ to the extent that actual loss plus consequential damages (plus interest and expenses) is not more than the amount of the check, they would be

265. According to a 2001 study by the Federal Reserve System, paper check writing has been declining by about three percent a year in the last several years. For more information, see STAFF STUDY 175, *supra* note 110.

266. 12 C.F.R. § 205.11(b)(1)(i) (2006).

267. See Steve Bills, *Final Rules, New Questions on Check 21*, AM. BANKER, July 30, 2004, at 1.

268. See Phinisee, *supra* note 217.

269. 12 U.S.C. § 5009(a)(1) (2000).

270. 12 C.F.R. § 229.56 (2006).

covered. To review some analogous situations briefly, U.C.C. Article 4, sections 4-103(e) and 4-402(b) provide for consequential damages in certain situations (the Electronic Fund Transfer Act doesn't mention them but seems to authorize them).²⁷¹ But Funds Transfers under Article 4A of the U.C.C. does allow them only in very minor respects.²⁷² In retaining an already antiquated system, the Check 21 Act hardly needs to make its more complex provisions even more difficult to understand and to apply.

Under the Check 21 Act, check-processing transactions might be settled by using only the image, or the paying bank could turn the image back into paper, therefore creating an image replacement document that is a physical printout of the electronic file. Each time the paper is converted to bytes or changed back to paper, the burden of liability shifts. When banks sell check scanners to their corporate clients or let them convert paper into images, they trust these corporate customers to create valid files. Most of the banks expect to pass this liability onto their corporate customer. However, banks are concerned that not all customers will be capable of handling this burden.²⁷³

Image-exchange systems are taking off slowly. Banks will initially convert the image files, which they receive from corporate customers, back into paper by creating image replacement documents. Turning an image replacement document into a paper check would normally add a wrinkle to the issue of liability, considering that the provisions of the Check 21 Act promulgate that a bank which turns an image back into paper shall assume responsibility for the newly created document.²⁷⁴ Banks will need to use imaging software to force their corporate customers to inspect, as well as to verify, every image they make. This approach by banks might solve or at least minimize the liability issue by preventing bad images from entering the check payment (clearance) system.²⁷⁵

One effect of the Check 21 Act is that it reduces the number of paper checks going through the system, thereby creating surplus capacity in the check-processing industry. In this regard, the Federal Reserve could contribute to reducing that excess by shutting down its check-processing system.²⁷⁶ The Federal Reserve handles over one-

271. 15 U.S.C. § 1693(h) (2000).

272. U.C.C. § 4A-305 (2002).

273. See Andy Giegerich, *Bank Industry Prepares for Electronic Check Law*, BUS. J. PORTLAND, Aug. 16, 2004, <http://www.bizjournals.com/portland/stories/2004/08/16/story2.html>.

274. See Will Wade, *Early Debate On Remote-Capture Risk*, AM. BANKER, May 26, 2004, at 1.

275. See Lisa Tanner, *Banks Check in on the Digital Revolution: Digital Check Imaging Represents a Big Leap Forward for the Banking System*, DALLAS BUS. J., July 19, 2002, <http://www.bizjournals.com/dallas/stories/2002/07/22/focus5.html>.

276. See Robert A. Bennett, *Fed on the Defensive*, U.S. BANKER, Nov. 2001, at 42, 44.

third of the checks circulated within the U.S. banking system.²⁷⁷ However, the Federal Reserve is slowly but gradually falling short of a requirement under the Monetary Control Act of 1980.²⁷⁸ That Act states that the Federal Reserve can recover costs incurred in providing services to the check-clearing business, and can earn what the Federal Reserve would as a private entity.²⁷⁹

After bringing in \$69 million less in projected earnings in the year 2002, and \$51 million less than projected in the year 2001, the Federal Reserve missed its profit target by \$155 million in 2003. As a result, the Federal Reserve reduced the amount it turned back to the U.S. Treasury, which added to the budget deficit.²⁸⁰ The Federal Reserve would have had to increase charges for check-processing services by twenty-nine percent in order to have met the profit target for the year 2003.²⁸¹ This increase in price would have brought a reduction in the volume of check transactions, which would have required the Federal Reserve to set even higher check-processing prices, leading to an even lower volume of check transactions.

Many bankers believe that Check 21 Act might have a negative impact on the efficiency and profitability of the Federal Reserve's check-processing business. For the year 2004 and the following years, the Federal Reserve is expected to suffer more losses as the volume of check processing declines. Obviously the Federal Reserve's incurred losses in the processing business will be subsidized by taxpayers. This will continue to enable the Federal Reserve to compete unfairly against other check processors. Some bankers go as far as to suggest that the Federal Reserve should simply get out of the check-processing and transportation business. They add that if the Federal Reserve shuts down its check business, the U.S. banking industry would be able to rationalize its processing capacity as the volume of check payments continues to decline.²⁸²

Although the Federal Reserve does not publicly admit that it could get out of check processing, it has responded to the losses suffered as a result of check decline.²⁸³ For example, the Federal Reserve has closed thirteen of its forty-five processing centers,²⁸⁴ resulting in job

277. *Id.*

278. See 12 U.S.C. § 226 note (2000).

279. See Bennett, *supra* note 276, at 44.

280. See Bert Ely & Kimberly Hoover, *Check 21 Spells the End of Fed Check Processing*, AM. BANKER, May 21, 2004, at 11.

281. *Id.*

282. See Meredith Jordan, *Atlanta Fed Figuring out New Check-Clearing Law*, ATLANTA BUS. CHRON., Feb. 20–26, 2004, at 23A.

283. See STAFF STUDY 175, *supra* note 110.

284. See Ely & Hoover, *supra* note 280, at 11.

losses on top of the reduced capacity.²⁸⁵ In 2003, the Federal Reserve Bank of New York laid off about thirty people in its East Rutherford, New Jersey, operations center as a result of decreasing check volumes and introduction of check images.²⁸⁶

Banks still have significant revenue streams that depend on check-processing technology. Because of the Check 21 Act, some lucrative sources of revenue, such as paper check processing and check transportation, are going to disappear. The Check 21 Act cuts in two directions: it sustains the checking system at the same time it reduces the volume of checks. Banks will look to alternative mechanisms, including the new electronic systems, to compensate for their losses.²⁸⁷

Almost nothing definitive has been established about the way the Check 21 Act will operate or, for that matter, the changes coming to the world of imaging. Bankers are unsure when, how, or even if they need to upgrade their current systems and move entirely to imaging. Moreover, bankers do not receive much help from vendors and consultants, whom bankers complain are overloading them with a lot of information and data, much of which they say is incorrect.²⁸⁸ Even check sorters face new challenges under the Check 21 Act. They need to be able to handle substitute checks. The cost to produce an image replacement document is estimated to be five to twelve cents; the cost to process a paper check prior to implementation of the Check 21 Act was four cents.²⁸⁹

Another issue to be resolved is the type of ink and paper necessary for printing the check images. This is the within the scope of the American National Standards Institute,²⁹⁰ which has yet to determine this matter. Like check-image processing companies, vendors who sell products related to check-image services use software with different algorithms to perform the checks' evaluations without hav-

285. See Jenna Colley, *Federal Reserve Checking out of Local Processing Plant, Eliminating 55 Jobs*, HOUSTON BUS. J., Aug. 6, 2004, <http://www.bizjournals.com/houston/stories/2004/08/09/story7.html>.

286. See Tom Fredrickson, *Checks Disappearing, Jobs Too; Law Fostering Electronic Transfers Cuts Costs Sharply but Pares NY Jobs*, CRAIN'S N.Y. BUS., May 24, 2004, at 3.

287. See Tom Locke, *New Regs Cut into Float Time for Checks*, DENVER BUS. J., Aug. 6, 2004, <http://www.bizjournals.com/denver/stories/2004/08/09/story5.html>.

288. See Alan Kline, *Editor's Note*, AM. BANKER, May 5, 2004, at 6A.

289. See Charles Keenan, *Check 21: Maybe Not So Daunting After All*, AM. BANKER, May 5, 2004, at 6A.

290. The American National Standards Institute serves as administrator and coordinator of the U.S. private sector voluntary standardization system. The Institute is a private and nonprofit membership organization, which is supported by a diverse constituency of private and public sector organizations. The Institute promotes and facilitates voluntary consensus standards and conformity assessment systems, as well as promotes their integrity. See American National Standards Institute, *supra* note 198.

ing a unique set of standards. Many vendors refuse to share their technology with their competitors.²⁹¹ As a result, banks and other financial institutions that purchase these products end up having limited choices if they decide to terminate their relationship with one vendor and purchase from others.

Privately operated check-exchange services also expect their revenues to decline in check processing. Banks and other financial institutions are not immune. They are ultimately going to downsize. J.P. Morgan Chase Bank employs about five hundreded people in Carlstadt, New Jersey, who process checks. Their jobs are far from certain.²⁹²

According to SVPCO, banks need to reengineer their back offices substantially before they can participate effectively in the check image process. SVPCO had earlier estimated that in the year 2004, only six to eight of the twenty-three banks that co-own SVPCO would be ready to provide image-exchange services.²⁹³

The Check 21 Act and revised Regulation CC leave unanswered questions. Banks ask whether one bank can trust another bank's image capability or practice without a third party certifying the image; or whether a check image should be black and white or in color, and what its measurements and formatting should be. Banks are also left wondering what happens if the image quality deteriorates as the imaged check moves around. The image exchange business might not make any financial sense at all to banks that deal with a large percentage of local checks and have efficient trucking services in place.²⁹⁴ Other than a customer's bank, banks that image checks will hold or destroy original checks. The banking industry lacks information to estimate the cost of holding or shredding checks.

Seemingly, the Check 21 Act does not affect how quickly the bank's customers can access funds they have deposited into their checking accounts. The Check 21 Act is not expected to provide quicker access to the funds because the law does not shorten check hold times.²⁹⁵ However, quicker clearance of checks might cause serious problems for those bank customers (normally small businesses or individuals) who depend on checks taking three days or more to clear, giving them time to make deposits to cover the checks. The increase of "insufficient fund checks" might lead towards customers receiving higher fee

291. See Chris Costanzo, *Problem of Blurry Images Clouds Check 21's Future*, AM. BANKER, Mar. 31, 2004, at 17.

292. See Fredrickson, *supra* note 286, at 3.

293. See Raghunathan, *supra* note 211, at 5D.

294. See Linda Goodspeed, *Banks Gear up to Educate Customers About Check 21*, BOSTON BUS. J., May 14-20, 2004, at 38.

295. See Jaclyn Capetillo, *Check 21 Will Clear the Way for Faster Payment Processing*, SAN ANTONIO BUS. J., June 18, 2004, <http://www.bizjournals.com/sanantonio/stories/2004/06/21/focus4.html>.

penalties and possibly having their credit ratings negatively impacted.²⁹⁶

Consumers' groups are concerned that, while the Check 21 Act sustains the checking system, at the same time it reduces traditional protections available to checking account holders. They say that many consumers rely on a physical cancelled check as a tool. Consumers Union, an advocacy group, opposed the Check 21 Act because, among other reasons, consumers were not provided with the option to receive their original paper checks back automatically from the bank.²⁹⁷

Converting checks to ACH transactions under the Accounts Receivable Entry (ARC) program was supposed to lead to big savings. This wish never materialized. The ARC program is in a status equivalent to checks under the Check 21 Act. One sees the potential in written documents but there is no reality. As with the Check 21 Act, the jury is out to see whether banks and consumers realize any cost savings while they divide their transactions among various payment systems.²⁹⁸

We move inexorably in the directions of current and innovative electronic payment systems. With the introduction of ARC, with the Check 21 Act and amendments to Regulation CC and with its participation in electronic payment systems under the Electronic Funds Transfer Act, the Federal Reserve clearly sees itself as a mover and a shaker. Indeed, one cannot be sure that a consensus can develop around any system without the Federal Reserve's leadership. The Federal Reserve at least acknowledges its participation.

Its former chairman, Alan Greenspan, said:

The Federal Reserve also clearly recognizes the need to foster innovation in the private sector and to help remove barriers to the development and adoption of new payment services for electronic and traditional commerce As financial systems have become more complex, detailed rules and standards have become both more burdensome and less effective. If we wish to foster financial innovation, we must first be careful not to impose rules that inhibit it, and we must be especially watchful that we not unduly impede our increasingly broad electronic payments system In the case of electronic payment innovations, only consumers and merchants will ultimately determine what new products are successful in the marketplace.²⁹⁹

Electronic payment innovations are expected to possess three fundamental characteristics under the U.S. payments system. First, the

296. See Gillen, *supra* note 235.

297. See Mary K. Pratt, *Bankers Bullish on Chances of Check-Clearing Legislation*, BOSTON BUS. J., Sept. 12-18, 2003, at 39.

298. See John Gliedman, *Legally Speaking: The Check Is in the (E-)Mail*, DARWIN, July 23, 2004, <http://www.darwinmag.com/read/buzz/column.html?ArticleID=1121>.

299. Alan Greenspan, Chairman, Fed. Reserve, Change in the U.S. Retail Payment Systems, Address Before the National Automated Clearinghouse Association Annual Meeting (Apr. 10, 2000), available at <http://www.bis.org/review/r000414b.pdf>.

electronic payment innovations must possess integrity, meaning that transactions must be safe and reliable, as well as secure. Second, they must be accessible, meaning they should be available to all—individuals and businesses. Finally, electronic payment innovations must be competitive and efficient, meaning the cost of making payments should be as low as possible.³⁰⁰

VI. THE TURN THAT SHOULD HAVE BEEN TAKEN

The Check 21 Act undoubtedly contains ingredients that will simplify the checking system. The banking system generally anticipates greater convenience, speed, and cost savings to the extent that Check 21 Act comes into widespread use. The problem with Check 21 Act is that it continues, even reinforces, the check as a dominant means of payment. We know the check; it has been around for hundreds of years. It continues to carry the weight of its history. It requires that at least three roles be played: drawer, drawee, and payee. The drawer writes (draws) a check on the drawee ordering it to pay the payee. Any two of these roles may be played by the same party. A bank check is, for example, a check drawn by a bank upon itself. The Check 21 Act will not enable the check to escape the burdens of its lineage.³⁰¹ Under the Check 21 Act, the traditional checking process will probably morph into something different and almost certainly something more electronic in nature. How this will happen is speculative, but the intricate refinements of the checking system, as controlled by U.C.C. Articles 3 and 4 and by Federal Reserve Regulations J and CC, will have their effects.

The following quotation from an article in the *American Banker* gives an idea of the process ahead:

Exactly how many banks will go ahead and participate in processing and clearing checks as electronic images is another question observers are asking. At first probably only a handful, Mr. Buchanan (a bank officer) said. Eventu-

300. See Thomas M. Hoenig, President, Fed. Reserve Bank of Kan. City, Payments and Settlement Systems: Future Players and Issues, Address at BAI Money Transfer Conference (Nov. 9, 2000), available at <http://www.kc.frb.org/SPCH&BIO/chicago.htm>.

301. See Wade, *supra* note 274, at 1 ("When the [Check 21 Act] takes effect in October, many banks plan to start settling transactions by converting paper checks into images and zapping them around the country. Sometimes the transactions will be settled using only the image, and sometimes the paying bank will turn the image back into paper . . ."). That same article points out how warranties will shift depending upon the settlement method used:

[A] bank that converts a check to an image also warrants that the image is readable and contains all the information necessary to settle a transaction. But when banks sell check scanners to their corporate customers and let them convert paper into images, the banks are also trusting their customers to create valid files.

Id.

ally, however, the paper check will disappear, at least as a document that travels through the processing chain. Clearing paper checks, which is now inexpensive on a per check basis, will become more costly as the volume of paper clearing falls, and that will drive more and more banks to electronic methods.³⁰²

Thus, it is conceivable that the traditional checking system will not simply remain, but also evolve into something new and relatively unrecognizable. Electronic processing companies, which need not be banks at all, may be key. In signing up banks, such companies can expand networking capabilities that, while leaving banks separate and independent, will perform functions for depository, paying, and intermediary banks, in essence creating a new system. Aggressive outsourcing institutions have begun competitive efforts to be the leaders in this process.³⁰³

That the check is so generally accepted and widely used is not an accident. Nor is it the result of planning. The real reason is Article 3 of the Uniform Commercial Code as supplemented by Article 4. The U.C.C. is the law of all states and provides a core legal procedure which is essentially the same for all banks and all of their customers. The result is the single payment instrument that results from this core structure—the check. One needs little sophistication in the financial world to know how to handle a check. It is part of our heritage.

The variations upon the basic check are infinite and growing. They nevertheless cling to the traditional structure. We have described in Part II the permission incorporated into the U.C.C. itself to vary its terms. Individual banks and clearinghouses, as groups of banks, have invented variations that simplify the basic system or introduce handling modifications that suit the needs of the banks involved. But at the end of the day, we still have the check.

While it does appear that the traditional check system will be improved by Check 21 Act in terms of more advanced and more pervasive use of imaging, it is neither conclusive that Check 21 will be generally adopted nor that it will be beneficial even if it is generally adopted. Application of Check 21 Act to the problem of fraudulent checks has raised issues. There will be benefits: greater imaging (and the use of facsimiles of images) will enable questionable checks to be exposed earlier in the system than is possible with the paper document. On the other hand, elimination of the paper check will eliminate the use of the sensory qualities—“special coloring, raised printing, even smells—that processing personnel often rely on.”³⁰⁴ There may also

302. See Rieker, *supra* note 208, at 2.

303. See Steve Bills, *E-Check Network Boom? Fiserv Inc. Launching New Service*, AM. BANKER, May 17, 2004, at 1.

304. See Costanzo, *supra* note 226, at 3.

be a sacrifice in available forensic evidence, like fingerprints, for law enforcement purposes. It has, however, been observed that if Check 21 Act enables the detection of more fraud, there may be fewer cases to prosecute.

Alternative methods of payment outside the checking system abound as sources for new and advanced standards. These are generally based upon the opportunities offered by contemporary electronic devices and were discussed in Part III. From Automated Clearing Houses to debit cards to the massive and international electronic payment nets, *A* looking to pay *B* is offered a variety of choices that can actually freeze *A* in attempting to make a selection in much the same manner that a potential buyer of a cell phone or a television set is now frozen by the available options that await him when he walks into a store. One sees, for example, the consumer faced with the choice of using a vendor's web site or using bank payment facilities. The former is advantageous to the vendor because it gives it a continuing link to the consumer; the latter may benefit the consumer because it enables him or her to pay any number of vendors from one source.³⁰⁵ There are too many options and it is too confusing.

The free enterprise system does suggest that there may be something appropriate in the present system of limitless choice. On the other hand, for a transaction as fundamentally simple as *A* paying *B*, there probably is little need for and little benefit from the endless options. They do enable Bank *X* to differentiate itself from Bank *Y* based upon specious benefits ("Now, at last, there is a bank that offers you . . ."). But that really benefits only the advertising community, and smacks of consumer fraud and certainly consumer expense.

If there is to be a payment system generally accepted throughout the country as checks are accepted today it must be based upon a new law applicable to all participants and serving the economy as a replacement for U.C.C. Articles 3 and 4. There are probably several entities in the country that could supply such a core law. One thinks first of the Commissioners on Uniform State Laws, the American Law Institute, Congress, and the Federal Reserve. The Commissioners have supplied us with many laws of controlling effect. They are, however, a generalist body and probably do not have the financial acumen to analyze and create a central law of payment systems. The A.L.I. is relatively new at drafting laws and has not really found its place relative to the Commissioners. Congress would rely upon a concealed technical support staff for the creative process. This staff would be young and inexperienced, would be insulated from the financial community,

305. See Daniel Wolfe, *Environment for EBPP Seen Shifting in Bankers' Favor: Payments of Bills Online*, AM. BANKER, June 29, 2004, at 17.

and almost certainly would not have the widespread confidence that such an effort requires.

The Federal Reserve is the obvious choice. It has a highly skilled staff. Through the twelve regional banks, it has creative minds throughout the country and can bring a special awareness to the process. It is proficient in legislative drafting and has a unique and productive relationship with Congress. It comes as no surprise, therefore, that the Federal Reserve has already been designated to assume this project. Unfortunately, the elephant toiled and came up with a mouse: the Check 21 Act.

Curiously, the Act is now counter-cultural and turns out to be bucking a trend. Throughout its history, the use of checks was an expanding operation. The final quarter of the twentieth century, however, witnessed a dramatic alternative growth largely at the expense of checks. "The proportion of retail noncash payments made electronically grew from fifteen percent in 1979 to forty percent in 2000."³⁰⁶ An example of electronic payments is the PayPal system, largely used in conjunction with consumer purchases over eBay. An article in the *Economist* on PayPal compares it with checking as follows: "It can take several weeks for checks to arrive in the post and for payments to clear, but online payments are made instantly, which means goods can be shipped straight away."³⁰⁷

As observers appreciated the growth in other payment methods, particularly those based upon new electronic adaptations, it was predicted year after year that check usage would drop.³⁰⁸ Recent evidence indicates that check usage did finally reach its peak and start to drop in the mid-1990s.³⁰⁹

The Check 21 Act is a curious attempt to revive a dying industry. As checks finally start to succumb to more modern forms of payment, the Federal Reserve throws checks a lifeline. In its staff study of the payments system, even those at the Federal Reserve who support improving check collection viewed such an effort as essentially inconsequential: "Several organizations (in the study) expressed a desire to improve check collection, although they saw improved collection as only a temporary measure."³¹⁰ It would have been much more productive for the Federal Reserve to use its unique position in the payment system to explore creation of a new level of payment based upon elec-

306. See STAFF STUDY 175, *supra* note 110, at 1.

307. *Paying Through the Mouse*, *ECONOMIST*, May 22-28, 2004, at 71.

308. See Steve Bills, *Study Finds Check Volume Dropped in '01; Volume of Written Checks Declines*, *AM. BANKER*, Sept. 19, 2002, at 11.

309. See Paul M. Connolly, Chief Operating Officer, Fed. Reserve Bank of Boston, *The Changing Retail Payments System*, Remarks at the New England Banker Forums (Sept. 26, 2002), available at <http://www.bos.frb.org/news/speeches/pmc/2002/092602.htm>.

310. See STAFF STUDY 175, *supra* note 110, at 3.

tronic innovations and whatever else is on the horizon (perhaps including such things as voice activation).³¹¹

We stop short of recommending the device (or devices) that should have been sponsored by the Federal Reserve. It seems obvious that whatever path taken, electronic connections will be a dominant component. As was said in connection with movement towards increased use of electronic signatures, "the Web becomes one of the most important channels for reaching customers."³¹² At the same time, until we truly understand the form of communication that will both serve the needs of a modern payments system and achieve—in contrast to all other competitive systems—customer commitment, no system should be chosen by a central authority like the Federal Reserve. Assumptions have been made and found inadequate at costs in both dollars and reputation. One remembers the announced plan of Bank One in 1977 to blanket the countryside with an "eye-popping" 20,000 ATMs³¹³ only to pull back, along with other disappointed major banks, in favor of a variety of nonbank financial deployers with the common sense to meet a new market. More work, more research, and more understanding are called for.

Indeed, foreign markets are a fertile and underutilized source of projections for the future. It is interesting to note, as the Federal Reserve and the Congress seem stuck in the checking system as the world of tomorrow as well as of yesterday, that "the U.S. payment system depends more on checks than is the case in all other industrialized nations."³¹⁴ Later in the same study the author noted that "the key to adopting a higher proportion of low cost transactions in the United States lies with reducing the number of checks written."³¹⁵ A study of payment systems around the world instituted at the Bank for International Settlements highlights the relevance of foreign systems to a greater understanding of our own.³¹⁶

We are comfortable in assuming that, of all the sources available, it will be the Federal Reserve that pushes the envelope in new and innovative proposals. They have talent and resources; they work easily with contributors outside their own sector. As the central bank, they are primarily responsible for the money supply. They thus have a nat-

311. See Jack Carroll & Claire Foley, *User Acceptance of Voice Authentication in Financial Services*, ELECTRONIC BANKING L. & COMM. REP., Oct. 2003, at 12.

312. Steve Bills, *Wells Adopts—and Will Market—E-Signatures*, AM. BANKER, June 9, 2004, at 1.

313. See David Breitkopf, *Familiar ATM Trend Spreads to E-Banking*, AM. BANKER, June 14, 2004, at 1.

314. Murphy, *supra* note 125, at 71.

315. *Id.* at 81.

316. The study is called the *Red Book* and it is produced by the Committee on Payment and Settlement Systems established by the so-called Group of Ten at the Bank for International Settlements in Basle, Switzerland.

ural concern for payment systems. After all, they did propose the Check 21 Act. It should not be forgotten that federal regulations have a high level of acceptability themselves and a statute may be unnecessary.³¹⁷

At the same time, the Federal Reserve is hardly indispensable. Informal³¹⁸ and formal³¹⁹ groups have gathered to consider the issues discussed in this Article and can stand up to correct the Federal Reserve's misstep.

The National Conference of Commissioners on Uniform State Laws, creator of the statutes governing checks, stands ready to undertake creative innovation. The American Law Institute has informally expressed interest apart from its connection with the Uniform Commissioners. And of course, individuals have written articles,³²⁰ books, and legislative proposals.³²¹

VII. CONCLUSION

The Check 21 Act became effective on October 28, 2004. It makes some modest changes in the traditional system of check clearing. Basically, it provides for introduction of a substitute check which, because of its uniformity (assuming wide implementation of the Check 21 Act), is designed to make check clearing faster and cheaper. The Check 21 Act leaves virtually intact basic checking laws like Articles 3 and 4 of the Uniform Commercial Code and Regulations J and CC of the Federal Reserve.

The checking system dates back to the Middle Ages and is the slowest and most cumbersome of the various payment systems in use. Although still a major payment device, it has been slowly fading away. The Federal Reserve, through introduction and approval of the Check 21 Act, has chosen to put its imprimatur on the checking system as a credible system and has undoubtedly extended its life into the future.

317. Federal regulations, of course, trump the U.C.C. and thus provide a particularly fertile area for innovation.

318. A group of local payment-system teachers has been meeting regularly at the New York Federal Reserve Bank.

319. See, e.g., Federal Reserve Bank of Chicago, Payments Studies Past Conferences, http://www.chicagofed.org/news_and_conferences/conferences_and_events/emerging_payments_conferences_past.cfm (last visited June 24, 2006).

320. See, e.g., Ronald J. Mann, *Making Sense of Payments Policy in the Information Age*, 93 GEO. L.J. 633 (2005).

321. One must not forget the New Payments Code largely written for the American Law Institute by Professor Hal Scott, Nomura Professor of International Financial Systems from Harvard Law School. Among its innovations, it melded checks, debit cards, and credit cards into one statute. It was publicly floated around 1980 and generally rejected by the banking community as too revolutionary. Therefore, it was never introduced to any legislative body.

Numerous forms of electronic payment systems, including credit and debit cards, Automated Clearing House transactions, the Accounts Receivable Entry program, cash cards and adaptations of payments under the Electronic Funds Transfer Act and Article 4A of the Uniform Commercial Code, have been replacing check payments. They are generally attractive to consumers and to businesses because they are almost always faster and cheaper. The Federal Reserve has, however, looked backward through the Check 21 Act.³²²

Some form of electronic payment will almost undoubtedly acquire a critical mass of payors and will replace checks. Action by the Federal Reserve, as our senior financial regulator, will be crucial to this process. The rapid increase in e-commerce and e-business should provide the impetus and synergies for increased online transactions. The shift in demographics toward a young-adult group that came of age in the high-tech 1990s will make the average household more comfortable with electronic payments of any kinds.

Electronic banking technologies will continue to evolve. New products and services are appearing on the horizon. Electronic banking technologies hold the promise of helping consumers manage their monies, pay their bills, and perform other related services. In order to take advantage of electronic developments in the payments system, consumers need to be aware of the innovations available to them and to understand how different technologies fit their financial management needs. Although the Check 21 Act is now effective, there has been almost no public education with regard to its potential.

It is difficult to anticipate with certainty how quickly and in what forms electronic payments will evolve in the U.S. payments system. The digital economy goes through its own dynamics, making evolution unpredictable.

A personal story involving the authors of this Article best captures the impact of the Check 21 Act (or lack thereof). Not long before the Act went into effect, the authors had lunch with two lawyers in the federal government involved with the evolution of payment systems. One of us asked what they thought would happen on October 28, 2004, the effective date of the Check 21 Act. One of the government lawyers replied, "Probably nothing."³²³

322. See Carl Felsenfeld & Genci Bilali, *The Inappropriate Check 21 Act*, 231 N.Y. L.J. 4.

323. The meeting with these two lawyers was held in September 2004. At their request, we will not identify them.